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## SEQUENCE LISTING

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                   260                                  265                                  270

Ile Asp Glu Asp Ser Pro Leu Tyr Asp Leu Ser Lys Gln Asp Ile Asp  
                   275                                  280                                  285

Asn Ala Asp Phe Glu Ile Val Val Ile Leu Glu Gly Met Val Glu Ala  
                   290                                  295                                  300

Thr Ala Met Thr Thr Gln Cys Arg Ser Ser Tyr Leu Ala Asn Glu Ile  
                   305                                  310                                  315                                  320

Leu Trp Gly His Arg Tyr Glu Pro Val Leu Phe Glu Glu Lys His Tyr

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325	330	335
Tyr Lys Val Asp Tyr Ser Arg Phe His Lys Thr Tyr Glu Val Pro Asn		
340	345	350
Thr Pro Leu Cys Ser Ala Arg Asp Leu Ala Glu Lys Lys Tyr Ile Leu		
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Ser Asn Ala Asn Ser Phe Cys Tyr Glu Asn Glu Val Ala Leu Thr Ser		
370	375	380
Lys Glu Glu Asp Asp Ser Glu Asn Gly Val Pro Glu Ser Thr Ser Thr		
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Asp Thr Pro Pro Asp Ile Asp Leu His Asn Gln Ala Ser Val Pro Leu		
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Glu Pro Arg Pro Leu Arg Arg Glu Ser Glu Ile		
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acgccgacct ccgcgcgcgc ccgcgcccggt ctgccccctc ccgctgcggc tctctggacg	180
ccatccccctc ctcacctcga agccaac atg aag gag acc cgg ggc tac gga ggg	234
Met Lys Glu Thr Arg Gly Tyr Gly Gly	
1 5	
gat gcc ccc ttc tgc acc cgc ctc aac cac tcc tac aca ggc atg tgg	282
Asp Ala Pro Phe Cys Thr Arg Leu Asn His Ser Tyr Thr Gly Met Trp	
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gcg ccc gag cgt tcc gcc gag gcg cgg ggc aac ctc acg cgc cct cca	330
Ala Pro Glu Arg Ser Ala Glu Ala Arg Gly Asn Leu Thr Arg Pro Pro	
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ggg tct ggc gag gat tgc gga tcg gtg tcc gtg gcc ttc ccg atc acc	378
Gly Ser Gly Glu Asp Cys Gly Ser Val Ser Val Ala Phe Pro Ile Thr	
45 50 55	
atg ctg ctc act ggt ttc gtg ggc aac gca ctg gcc atg ctg ctc gtg	426
Met Leu Leu Thr Gly Phe Val Gly Asn Ala Leu Ala Met Leu Leu Val	

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60	65	70	
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ctg tgc atc ggc tgg ctg gcg ctc acc gac ctg gtc ggg cag ctt ctc Leu Cys Ile Gly Trp Leu Ala Leu Thr Asp Leu Val Gly Gln Leu Leu 90 95 100 105			522
acc acc ccg gtc gtc atc gtc gtg tac ctg tcc aag cag cgt tgg gag Thr Thr Pro Val Val Ile Val Val Tyr Leu Ser Lys Gln Arg Trp Glu 110 115 120			570
cac atc gac ccg tcg ggg cgg ctc tgc acc ttt ttc ggg ctg acc atg His Ile Asp Pro Ser Gly Arg Leu Cys Thr Phe Phe Gly Leu Thr Met 125 130 135			618
act gtt ttc ggg ctc tcc tcg ttg ttc atc gcc agc gcc atg gcc gtc Thr Val Phe Gly Leu Ser Ser Leu Phe Ile Ala Ser Ala Met Ala Val 140 145 150			666
gag cgg gcg ctg gcc atc agg gcg ccg cac tgg tat gcg agc cac atg Glu Arg Ala Leu Ala Ile Arg Ala Pro His Trp Tyr Ala Ser His Met 155 160 165			714
aag acg cgt gcc acc cgc gct gtg ctg ctc ggc gtg tgg ctg gcc gtg Lys Thr Arg Ala Thr Arg Ala Val Leu Leu Gly Val Trp Leu Ala Val 170 175 180 185			762
ctc gcc ttc gcc ctg ctg ccg gtg ctg ggc gtg ggc cag tac acc gtc Leu Ala Phe Ala Leu Leu Pro Val Leu Gly Val Gly Gln Tyr Thr Val 190 195 200			810
cag tgg ccc ggg acg tgg tgc ttc atc agc acc ggg cga ggg ggc aac Gln Trp Pro Gly Thr Trp Cys Phe Ile Ser Thr Gly Arg Gly Gly Asn 205 210 215			858
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ttt gcc ttc ctg ggg ctc ttg gcg ctg aca gtc acc ttt tcc tgc aac Phe Ala Phe Leu Gly Leu Leu Ala Leu Thr Val Thr Phe Ser Cys Asn 235 240 245			954
ctg gcc acc att aag gcc ctg gtg tcc cgc tgc cgg gcc aag gcc acg Leu Ala Thr Ile Lys Ala Leu Val Ser Arg Cys Arg Ala Lys Ala Thr 250 255 260 265			1002
gca tct cag tcc agt gcc cag tgg ggc cgc atc acg acc gag acg gcc Ala Ser Gln Ser Ser Ala Gln Trp Gly Arg Ile Thr Thr Glu Thr Ala 270 275 280			1050
att cag ctt atg ggg atc atg tgc gtg ctg tcg gtc tgc tgg tct ccg Ile Gln Leu Met Gly Ile Met Cys Val Leu Ser Val Cys Trp Ser Pro 285 290 295			1098
ctc ctg ata atg atg ttg aaa atg atc ttc aat cag aca tca gtt gag Leu Leu Ile Met Met Leu Lys Met Ile Phe Asn Gln Thr Ser Val Glu 300 305 310			1146

- 13 -

cac tgc aag aca cac acg gag aag cag aaa gaa tgc aac ttc ttc tta 1194  
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 Ile Ala Val Arg Leu Ala Ser Leu Asn Gln Ile Leu Asp Pro Trp Val  
 330 335 340 345  
 tac ctg ctg tta aga aag atc ctt ctt cga aag ttt tgc cag atc agg 1290  
 Tyr Leu Leu Leu Arg Lys Ile Leu Leu Arg Lys Phe Cys Gln Ile Arg  
 350 355 360  
 tac cac aca aac aac tat gca tcc agc tcc acc tcc tta ccc tgc cag 1338  
 Tyr His Thr Asn Asn Tyr Ala Ser Ser Ser Thr Ser Leu Pro Cys Gln  
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 tgt tcc tca acc ttg atg tgg agc gac cat ttg gaa aga taa 1380  
 Cys Ser Ser Thr Leu Met Trp Ser Asp His Leu Glu Arg  
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Ser Val Ser Val Ala Phe Pro Ile Thr Met Leu Leu Thr Gly Phe Val  
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Gly Asn Ala Leu Ala Met Leu Leu Val Ser Arg Ser Tyr Arg Arg Arg  
 65 70 75 80

Glu Ser Lys Arg Lys Lys Ser Phe Leu Leu Cys Ile Gly Trp Leu Ala  
 85 90 95

Leu Thr Asp Leu Val Gly Gln Leu Leu Thr Thr Pro Val Val Ile Val  
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Val Tyr Leu Ser Lys Gln Arg Trp Glu His Ile Asp Pro Ser Gly Arg  
 115 120 125

Leu Cys Thr Phe Phe Gly Leu Thr Met Thr Val Phe Gly Leu Ser Ser  
 130 135 140

Leu Phe Ile Ala Ser Ala Met Ala Val Glu Arg Ala Leu Ala Ile Arg  
 145 150 155 160

Ala Pro His Trp Tyr Ala Ser His Met Lys Thr Arg Ala Thr Arg Ala  
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Val Leu Leu Gly Val Trp Leu Ala Val Leu Ala Phe Ala Leu Leu Pro  
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Val Leu Gly Val Gly Gln Tyr Thr Val Gln Trp Pro Gly Thr Trp Cys  
 195 200 205

Phe Ile Ser Thr Gly Arg Gly Gly Asn Gly Thr Ser Ser Ser His Asn  
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Trp Gly Asn Leu Phe Phe Ala Ser Ala Phe Ala Phe Leu Gly Leu Leu  
 225 230 235 240

Ala Leu Thr Val Thr Phe Ser Cys Asn Leu Ala Thr Ile Lys Ala Leu  
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Val Ser Arg Cys Arg Ala Lys Ala Thr Ala Ser Gln Ser Ser Ala Gln  
 260 265 270

Trp Gly Arg Ile Thr Thr Glu Thr Ala Ile Gln Leu Met Gly Ile Met  
 275 280 285

Cys Val Leu Ser Val Cys Trp Ser Pro Leu Leu Ile Met Met Leu Lys  
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Met Ile Phe Asn Gln Thr Ser Val Glu His Cys Lys Thr His Thr Glu  
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Lys Gln Lys Glu Cys Asn Phe Phe Leu Ile Ala Val Arg Leu Ala Ser  
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Leu Asn Gln Ile Leu Asp Pro Trp Val Tyr Leu Leu Leu Arg Lys Ile  
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Leu Leu Arg Lys Phe Cys Gln Ile Arg Tyr His Thr Asn Asn Tyr Ala  
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 Leu Leu Phe Trp Gly Cys Cys Val Met His Ser Trp Glu Gly His Ile  
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aga ccc aca cgg aaa cca aac aca aag ggt aat aac tgt aga gac agt 152  
 Arg Pro Thr Arg Lys Pro Asn Thr Lys Gly Asn Asn Cys Arg Asp Ser  
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acc ttg tgc cca gct tat gcc acc tgc acc aat aca gtg gac agt tac 200

- 16 -

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tat	tgc	gct	tgc	aaa	caa	ggc	ttc	ctg	tcc	agc	aat	ggg	caa	aat	cac	248
Tyr	Cys	Ala	Cys	Lys	Gln	Gly	Phe	Leu	Ser	Ser	Asn	Gly	Gln	Asn	His	
55					60					65					70	
ttc	aag	gat	cca	gga	gtg	cga	tgc	aaa	gat	att	gat	gaa	tgt	tct	caa	296
Phe	Lys	Asp	Pro	Gly	Val	Arg	Cys	Lys	Asp	Ile	Asp	Glu	Cys	Ser	Gln	
				75					80					85		
agc	ccc	cag	ccc	tgt	ggc	cct	aac	tca	tcc	tgc	aaa	aac	ctg	tca	ggg	344
Ser	Pro	Gln	Pro	Cys	Gly	Pro	Asn	Ser	Ser	Cys	Lys	Asn	Leu	Ser	Gly	
			90					95					100			
agg	tac	aag	tgc	agc	tgt	tta	gat	ggc	ttc	tct	tct	ccc	act	gga	aat	392
Arg	Tyr	Lys	Cys	Ser	Cys	Leu	Asp	Gly	Phe	Ser	Ser	Pro	Thr	Gly	Asn	
		105					110					115				
gac	tgg	gtc	cca	gga	aag	ccg	ggc	aat	ttc	tcc	tgt	act	gat	atc	aat	440
Asp	Trp	Val	Pro	Gly	Lys	Pro	Gly	Asn	Phe	Ser	Cys	Thr	Asp	Ile	Asn	
	120					125					130					
gag	tgc	ctc	acc	agc	agc	gtc	tgc	cct	gag	cat	tct	gac	tgt	gtc	aac	488
Glu	Cys	Leu	Thr	Ser	Ser	Val	Cys	Pro	Glu	His	Ser	Asp	Cys	Val	Asn	
135						140				145					150	
tcc	atg	gga	agc	tac	agt	tgc	agc	tgt	caa	gtt	gga	ttc	atc	tct	aga	536
Ser	Met	Gly	Ser	Tyr	Ser	Cys	Ser	Cys	Gln	Val	Gly	Phe	Ile	Ser	Arg	
				155					160					165		
aac	tcc	acc	tgt	gaa	gac	gtg	gat	gaa	tgt	gca	gat	cca	aga	gct	tgc	584
Asn	Ser	Thr	Cys	Glu	Asp	Val	Asp	Glu	Cys	Ala	Asp	Pro	Arg	Ala	Cys	
			170					175					180			
cca	gag	cat	gca	act	tgt	aat	aac	act	gtt	gga	aac	tac	tct	tgt	ttc	632
Pro	Glu	His	Ala	Thr	Cys	Asn	Asn	Thr	Val	Gly	Asn	Tyr	Ser	Cys	Phe	
		185					190					195				
tgc	aac	cca	gga	ttt	gaa	tcc	agc	agt	ggc	cac	ttg	agt	ttc	cag	ggc	680
Cys	Asn	Pro	Gly	Phe	Glu	Ser	Ser	Ser	Gly	His	Leu	Ser	Phe	Gln	Gly	
	200					205					210					
ctc	aaa	gca	tcg	tgt	gaa	gat	att	gat	gaa	tgc	act	gaa	atg	tgc	ccc	728
Leu	Lys	Ala	Ser	Cys	Glu	Asp	Ile	Asp	Glu	Cys	Thr	Glu	Met	Cys	Pro	
215					220					225					230	
atc	aat	tca	aca	tgc	acc	aac	act	cct	ggg	agc	tac	ttt	tgc	acc	tgc	776
Ile	Asn	Ser	Thr	Cys	Thr	Asn	Thr	Pro	Gly	Ser	Tyr	Phe	Cys	Thr	Cys	
				235					240					245		
cac	cct	ggc	ttt	gca	cca	agc	aat	gga	cag	ttg	aat	ttc	aca	gac	caa	824
His	Pro	Gly	Phe	Ala	Pro	Ser	Asn	Gly	Gln	Leu	Asn	Phe	Thr	Asp	Gln	
			250					255					260			
gga	gtg	gaa	tgt	aga	gat	att	gat	gag	tgc	cgc	caa	gat	cca	tca	acc	872
Gly	Val	Glu	Cys	Arg	Asp	Ile	Asp	Glu	Cys	Arg	Gln	Asp	Pro	Ser	Thr	
		265					270					275				
tgt	ggc	cct	aat	tct	atc	tgc	acc	aat	gcc	ctg	ggc	tcc	tac	agc	tgt	920
Cys	Gly	Pro	Asn	Ser	Ile	Cys	Thr	Asn	Ala	Leu	Gly	Ser	Tyr	Ser	Cys	
	280					285					290					



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ggc tgc att gca ggc ttt cat ccc aat cca gaa ggc tcc cag aaa gat	968
Gly Cys Ile Ala Gly Phe His Pro Asn Pro Glu Gly Ser Gln Lys Asp	
295 300 305 310	
ggc aac ttc agc tgc caa agg gtt ctc ttc aaa tgt aag gaa gat gtg	1016
Gly Asn Phe Ser Cys Gln Arg Val Leu Phe Lys Cys Lys Glu Asp Val	
315 320 325	
ata ccc gat aat aag cag atc cag caa tgc caa gag gga acc gca gtg	1064
Ile Pro Asp Asn Lys Gln Ile Gln Gln Cys Gln Glu Gly Thr Ala Val	
330 335 340	
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Lys Pro Ala Tyr Val Ser Phe Cys Ala Gln Ile Asn Asn Ile Phe Ser	
345 350 355	
gtt ctg gac aaa gtg tgt gaa aat aaa acg acc gta gtt tct ctg aag	1160
Val Leu Asp Lys Val Cys Glu Asn Lys Thr Thr Val Val Ser Leu Lys	
360 365 370	
aat aca act gag agc ttt gtc cct gtg ctt aaa caa ata tcc acg tgg	1208
Asn Thr Thr Glu Ser Phe Val Pro Val Leu Lys Gln Ile Ser Thr Trp	
375 380 385 390	
act aaa ttc acc aag gaa gag acg tcc tcc ctg gcc aca gtc ttc ctg	1256
Thr Lys Phe Thr Lys Glu Glu Thr Ser Ser Leu Ala Thr Val Phe Leu	
395 400 405	
gag agt gtg gaa agc atg aca ctg gca tct ttt tgg aaa ccc tca gca	1304
Glu Ser Val Glu Ser Met Thr Leu Ala Ser Phe Trp Lys Pro Ser Ala	
410 415 420	
aat atc act ccg gct gtt cgg acg gaa tac tta gac att gag agc aaa	1352
Asn Ile Thr Pro Ala Val Arg Thr Glu Tyr Leu Asp Ile Glu Ser Lys	
425 430 435	
gtt atc aac aaa gaa tgc agt gaa gag aat gtg acg ttg gac ttg gta	1400
Val Ile Asn Lys Glu Cys Ser Glu Glu Asn Val Thr Leu Asp Leu Val	
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gcc aag ggg gat aag atg aag atc ggg tgt tcc aca att gag gaa tct	1448
Ala Lys Gly Asp Lys Met Lys Ile Gly Cys Ser Thr Ile Glu Glu Ser	
455 460 465 470	
gaa tcc aca gag acc act ggt gtg gct ttt gtc tcc ttt gtg ggc atg	1496
Glu Ser Thr Glu Thr Thr Gly Val Ala Phe Val Ser Phe Val Gly Met	
475 480 485	
gaa tcg gtt tta aat gag cgc ttc ttc aaa gac cac cag gct ccc ttg	1544
Glu Ser Val Leu Asn Glu Arg Phe Phe Lys Asp His Gln Ala Pro Leu	
490 495 500	
acc acc tct gag atc aag ctg aag atg aat tct cga gtc gtt ggg ggc	1592
Thr Thr Ser Glu Ile Lys Leu Lys Met Asn Ser Arg Val Val Gly Gly	
505 510 515	
ata atg act gga gag aag aaa gac ggc ttc tca gat cca atc atc tac	1640
Ile Met Thr Gly Glu Lys Lys Asp Gly Phe Ser Asp Pro Ile Ile Tyr	
520 525 530	
act ctg gag aac att cag cca aag cag aag ttt gag agg ccc atc tgt	1688

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Thr 535	Leu	Glu	Asn	Ile	Gln 540	Pro	Lys	Gln	Lys	Phe 545	Glu	Arg	Pro	Ile	Cys 550	
gtt	tcc	tgg	agc	act	gat	gtg	aag	ggg	gga	aga	tgg	aca	tcc	ttt	ggc	1736
Val	Ser	Trp	Ser	Thr	Asp	Val	Lys	Gly	Gly	Arg	Trp	Thr	Ser	Phe	Gly	
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tgt	gtg	atc	ctg	gaa	gct	tct	gag	aca	tat	acc	atc	tgc	agc	tgt	aat	1784
Cys	Val	Ile	Leu	Glu	Ala	Ser	Glu	Thr	Tyr	Thr	Ile	Cys	Ser	Cys	Asn	
			570					575					580			
cag	atg	gca	aat	ctt	gcc	gtt	atc	atg	gcg	tct	ggg	gag	ctc	acg	atg	1832
Gln	Met	Ala	Asn	Leu	Ala	Val	Ile	Met	Ala	Ser	Gly	Glu	Leu	Thr	Met	
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gac	ttt	tcc	ttg	tac	atc	att	agc	cat	gta	ggc	att	atc	atc	tcc	ttg	1880
Asp	Phe	Ser	Leu	Tyr	Ile	Ile	Ser	His	Val	Gly	Ile	Ile	Ile	Ser	Leu	
	600					605					610					
gtg	tgc	ctc	gtc	ttg	gcc	atc	gcc	acc	ttt	ctg	ctg	tgt	cgc	tcc	atc	1928
Val	Cys	Leu	Val	Leu	Ala	Ile	Ala	Thr	Phe	Leu	Leu	Cys	Arg	Ser	Ile	
	615				620					625					630	
cga	aat	cac	aac	acc	tac	ctc	cac	ctg	cac	ctc	tgc	gtg	tgt	ctc	ctc	1976
Arg	Asn	His	Asn	Thr	Tyr	Leu	His	Leu	His	Leu	Cys	Val	Cys	Leu	Leu	
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ttg	gcg	aag	act	ctc	ttc	ctc	gcc	ggg	ata	cac	aag	act	gac	aac	aag	2024
Leu	Ala	Lys	Thr	Leu	Phe	Leu	Ala	Gly	Ile	His	Lys	Thr	Asp	Asn	Lys	
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atg	ggc	tgc	gcc	atc	atc	gcg	ggc	ttc	ctg	cac	tac	ctt	ttc	ctt	gcc	2072
Met	Gly	Cys	Ala	Ile	Ile	Ala	Gly	Phe	Leu	His	Tyr	Leu	Phe	Leu	Ala	
		665					670					675				
tgc	ttc	ttc	tgg	atg	ctg	gtg	gag	gct	gtg	ata	ctg	ttc	ttg	atg	gtc	2120
Cys	Phe	Phe	Trp	Met	Leu	Val	Glu	Ala	Val	Ile	Leu	Phe	Leu	Met	Val	
	680					685					690					
aga	aac	ctg	aag	gtg	gtg	aat	tac	ttc	agc	tct	cgc	aac	atc	aag	atg	2168
Arg	Asn	Leu	Lys	Val	Val	Asn	Tyr	Phe	Ser	Ser	Arg	Asn	Ile	Lys	Met	
	695				700					705					710	
ctg	cac	atc	tgt	gcc	ttt	ggg	tat	ggg	ctg	ccg	atg	ctg	gtg	gtg	gtg	2216
Leu	His	Ile	Cys	Ala	Phe	Gly	Tyr	Gly	Leu	Pro	Met	Leu	Val	Val	Val	
				715					720					725		
atc	tct	gcc	agt	gtg	cag	cca	cag	ggc	tat	gga	atg	cat	aat	cgc	tgc	2264
Ile	Ser	Ala	Ser	Val	Gln	Pro	Gln	Gly	Tyr	Gly	Met	His	Asn	Arg	Cys	
			730					735					740			
tgg	ctg	aat	aca	gag	aca	ggg	ttc	atc	tgg	agt	ttc	ttg	ggg	cca	gtt	2312
Trp	Leu	Asn	Thr	Glu	Thr	Gly	Phe	Ile	Trp	Ser	Phe	Leu	Gly	Pro	Val	
		745					750					755				
tgc	aca	gtt	ata	gtg	atc	aac	tcc	ctt	ctc	ctg	acc	tgg	acc	ttg	tgg	2360
Cys	Thr	Val	Ile	Val	Ile	Asn	Ser	Leu	Leu	Leu	Thr	Trp	Thr	Leu	Trp	
	760					765					770					
atc	ctg	agg	cag	agg	ctt	tcc	agt	gtt	aat	gcc	gaa	gtc	tca	acg	cta	2408
Ile	Leu	Arg	Gln	Arg	Leu	Ser	Ser	Val	Asn	Ala	Glu	Val	Ser	Thr	Leu	
	775				780					785					790	

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aaa gac acc agg tta ctg acc ttc aag gcc ttt gcc cag ctc ttc atc      2456
Lys Asp Thr Arg Leu Leu Thr Phe Lys Ala Phe Ala Gln Leu Phe Ile
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Leu Gly Cys Ser Trp Val Leu Gly Ile Phe Gln Ile Gly Pro Val Ala
                        810                        815                        820

ggg gtc atg gct tac ctg ttc acc atc atc aac agc ctg cag ggg gcc      2552
Gly Val Met Ala Tyr Leu Phe Thr Ile Ile Asn Ser Leu Gln Gly Ala
                        825                        830                        835

ttc atc ttc ctc atc cac tgt ctg ctc aac ggc cag gta cga gaa gaa      2600
Phe Ile Phe Leu Ile His Cys Leu Leu Asn Gly Gln Val Arg Glu Glu
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tac aag agg tgg atc act ggg aag acg aag ccc agc tcc cag tcc cag      2648
Tyr Lys Arg Trp Ile Thr Gly Lys Thr Lys Pro Ser Ser Gln Ser Gln
855                        860                        865                        870

acc tca agg atc ttg ctg tcc tcc atg cca tcc gct tcc aag acg ggt      2696
Thr Ser Arg Ile Leu Leu Ser Ser Met Pro Ser Ala Ser Lys Thr Gly
                        875                        880                        885

taa agtcctttct tgctttcaaa tatgctatgg agccacagtt gaggacagta      2749

gtttcctgca ggagcctacc ctgaaatctc ttctcagctt aacatggaaa tgaggatccc      2809

accagcccca gaaccctctg gggaagaatg ttggggggcgg tcttcctgtg gttgtatgca      2869

ctgatgagaa atcaggcggt tctgctccaa acgaccattt tatcttcgtg ctctgcaact      2929

tcttcaattc cagagtttct gagaacagac ccaaattcaa tggcatgacc aagaacacct      2989

ggctaccatt ttgttttctc ctgcccttgt tgggtgcatgg ttctaagcat gccctccag      3049

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&lt;211&gt; 886

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&lt;400&gt; 9

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Ser Trp Glu Gly His Ile Arg Pro Thr Arg Lys Pro Asn Thr Lys Gly
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Asn Asn Cys Arg Asp Ser Thr Leu Cys Pro Ala Tyr Ala Thr Cys Thr
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Asn Thr Val Asp Ser Tyr Tyr Cys Ala Cys Lys Gln Gly Phe Leu Ser

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Ile	Asp	Glu	Cys	Ser	Gln	Ser	Pro	Gln	Pro	Cys	Gly	Pro	Asn	Ser	Ser
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Cys	Lys	Asn	Leu	Ser	Gly	Arg	Tyr	Lys	Cys	Ser	Cys	Leu	Asp	Gly	Phe
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Ser	Ser	Pro	Thr	Gly	Asn	Asp	Trp	Val	Pro	Gly	Lys	Pro	Gly	Asn	Phe
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Ser	Cys	Thr	Asp	Ile	Asn	Glu	Cys	Leu	Thr	Ser	Ser	Val	Cys	Pro	Glu
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His	Ser	Asp	Cys	Val	Asn	Ser	Met	Gly	Ser	Tyr	Ser	Cys	Ser	Cys	Gln
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Val	Gly	Phe	Ile	Ser	Arg	Asn	Ser	Thr	Cys	Glu	Asp	Val	Asp	Glu	Cys
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Ala	Asp	Pro	Arg	Ala	Cys	Pro	Glu	His	Ala	Thr	Cys	Asn	Asn	Thr	Val
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Gly	Asn	Tyr	Ser	Cys	Phe	Cys	Asn	Pro	Gly	Phe	Glu	Ser	Ser	Ser	Gly
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His	Leu	Ser	Phe	Gln	Gly	Leu	Lys	Ala	Ser	Cys	Glu	Asp	Ile	Asp	Glu
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Cys	Thr	Glu	Met	Cys	Pro	Ile	Asn	Ser	Thr	Cys	Thr	Asn	Thr	Pro	Gly
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Ser	Tyr	Phe	Cys	Thr	Cys	His	Pro	Gly	Phe	Ala	Pro	Ser	Asn	Gly	Gln
				245					250					255	
Leu	Asn	Phe	Thr	Asp	Gln	Gly	Val	Glu	Cys	Arg	Asp	Ile	Asp	Glu	Cys
			260					265					270		
Arg	Gln	Asp	Pro	Ser	Thr	Cys	Gly	Pro	Asn	Ser	Ile	Cys	Thr	Asn	Ala
	275						280					285			
Leu	Gly	Ser	Tyr	Ser	Cys	Gly	Cys	Ile	Ala	Gly	Phe	His	Pro	Asn	Pro
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- 21 -

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Gln Glu Gly Thr Ala Val Lys Pro Ala Tyr Val Ser Phe Cys Ala Gln  
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Thr Val Val Ser Leu Lys Asn Thr Thr Glu Ser Phe Val Pro Val Leu  
 370 375 380

Lys Gln Ile Ser Thr Trp Thr Lys Phe Thr Lys Glu Glu Thr Ser Ser  
 385 390 395 400

Leu Ala Thr Val Phe Leu Glu Ser Val Glu Ser Met Thr Leu Ala Ser  
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Phe Trp Lys Pro Ser Ala Asn Ile Thr Pro Ala Val Arg Thr Glu Tyr  
 420 425 430

Leu Asp Ile Glu Ser Lys Val Ile Asn Lys Glu Cys Ser Glu Glu Asn  
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Val Thr Leu Asp Leu Val Ala Lys Gly Asp Lys Met Lys Ile Gly Cys  
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Val Ser Phe Val Gly Met Glu Ser Val Leu Asn Glu Arg Phe Phe Lys  
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Ser Asp Pro Ile Ile Tyr Thr Leu Glu Asn Ile Gln Pro Lys Gln Lys  
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Phe Glu Arg Pro Ile Cys Val Ser Trp Ser Thr Asp Val Lys Gly Gly



- 23 -

Phe Ala Gln Leu Phe Ile Leu Gly Cys Ser Trp Val Leu Gly Ile Phe  
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Gln Ile Gly Pro Val Ala Gly Val Met Ala Tyr Leu Phe Thr Ile Ile  
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Asn Ser Leu Gln Gly Ala Phe Ile Phe Leu Ile His Cys Leu Leu Asn  
                     835                    840                    845

Gly Gln Val Arg Glu Glu Tyr Lys Arg Trp Ile Thr Gly Lys Thr Lys  
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 aaacgctcac tgggcaaaac accttcactg aaaagagacc tcatattatg caaaaaaaat 180  
 cttaaaaggc ctctgccttc agaagttaca ag atg atc aat tca acc tcc aca 233  
   Met Ile Asn Ser Thr Ser Thr  
   1                    5  
 cag cct cca gat gaa tcc tgc tct cag aac ctc ctg atc act cag cag 281  
 Gln Pro Pro Asp Glu Ser Cys Ser Gln Asn Leu Leu Ile Thr Gln Gln  
                     10                    15                    20  
 atc att cct gtg ctg tac tgt atg gtc ttc att gca gga atc cta ctc 329  
 Ile Ile Pro Val Leu Tyr Cys Met Val Phe Ile Ala Gly Ile Leu Leu  
                     25                    30                    35  
 aat gga gtg tca gga tgg ata ttc ttt tac gtg ccc agc tct gag agt 377  
 Asn Gly Val Ser Gly Trp Ile Phe Phe Tyr Val Pro Ser Ser Glu Ser  
                     40                    45                    50                    55  
 ttc atc atc tat ctc aag aac att gtt att gct gac ttt gtg atg agc 425  
 Phe Ile Ile Tyr Leu Lys Asn Ile Val Ile Ala Asp Phe Val Met Ser  
                     60                    65                    70

- 24 -

ctg act ttt cct ttc aag atc ctt ggt gac tca ggc ctt ggt ccc tgg	473
Leu Thr Phe Pro Phe Lys Ile Leu Gly Asp Ser Gly Leu Gly Pro Trp	
75 80 85	
cag ctg aac gtg ttt gtg tgc agg gtc tct gcc gtg ctc ttc tac gtc	521
Gln Leu Asn Val Phe Val Cys Arg Val Ser Ala Val Leu Phe Tyr Val	
90 95 100	
aac atg tac gtc agc att gtg ttc ttt ggg ctc atc agc ttt gac aga	569
Asn Met Tyr Val Ser Ile Val Phe Phe Gly Leu Ile Ser Phe Asp Arg	
105 110 115	
tat tat aaa att gta aag cct ctt tgg act tct ttc atc cag tca gtg	617
Tyr Tyr Lys Ile Val Lys Pro Leu Trp Thr Ser Phe Ile Gln Ser Val	
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agt tac agc aaa ctt ctg tca gtg ata gta tgg atg ctc atg ctc ctc	665
Ser Tyr Ser Lys Leu Leu Ser Val Ile Val Trp Met Leu Met Leu Leu	
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ctt gct gtt cca aat att att ctc acc aac cag agt gtt agg gag gtt	713
Leu Ala Val Pro Asn Ile Ile Leu Thr Asn Gln Ser Val Arg Glu Val	
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aca caa ata aaa tgt ata gaa ctg aaa agt gaa ctg gga cgg aag tgg	761
Thr Gln Ile Lys Cys Ile Glu Leu Lys Ser Glu Leu Gly Arg Lys Trp	
170 175 180	
cac aaa gca tca aac tac atc ttc gtg gcc atc ttc tgg att gtg ttt	809
His Lys Ala Ser Asn Tyr Ile Phe Val Ala Ile Phe Trp Ile Val Phe	
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ctt ttg tta atc gtt ttc tat act gct atc aca aag aaa atc ttt aag	857
Leu Leu Leu Ile Val Phe Tyr Thr Ala Ile Thr Lys Lys Ile Phe Lys	
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Pro Tyr His Ile Ala Arg Ile Pro Tyr Thr Lys Ser Gln Thr Glu Ala	
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cat tac agc tgc cag tca aaa gaa atc ttg cgg tat atg aaa gaa ttc	1049
His Tyr Ser Cys Gln Ser Lys Glu Ile Leu Arg Tyr Met Lys Glu Phe	
265 270 275	
act ctg cta cta tct gct gca aat gta tgc ttg gac cct att att tat	1097
Thr Leu Leu Leu Ser Ala Ala Asn Val Cys Leu Asp Pro Ile Ile Tyr	
280 285 290 295	
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Phe Phe Leu Cys Gln Pro Phe Arg Glu Ile Leu Cys Lys Lys Leu His	
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att cca tta aaa gct cag aat gac cta gac att tcc aga atc aaa aga	1193
Ile Pro Leu Lys Ala Gln Asn Asp Leu Asp Ile Ser Arg Ile Lys Arg	



- 25 -

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Gly Asn Thr Thr Leu Glu Ser Thr Asp Thr Leu			
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aagatatgtg ccctcatcat aaatatcatc tctagcactg ccatccaatt tagttcaata			1359
aaattcaaat ataagtttcc atgctttttt gtaacatcaa agaaaacata cccatcagta			1419
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caattctatt atattaaaat aagttaaagt ttataaccac tagtctgggc agttaatgta			1539
gaaatttaaa tagtaaataa aacacaacat aatcaaagac aactcactca ggcattctct			1599
ttctctaaat accagaatct agtatgtaat tgttttcaac actgtcctta aagactaact			1659
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			20				25						30		

- 26 -

Phe Ile Ala Gly Ile Leu Leu Asn Gly Val Ser Gly Trp Ile Phe Phe  
           35                                  40                                  45

Tyr Val Pro Ser Ser Glu Ser Phe Ile Ile Tyr Leu Lys Asn Ile Val  
       50                                  55                                  60

Ile Ala Asp Phe Val Met Ser Leu Thr Phe Pro Phe Lys Ile Leu Gly  
   65                                  70                                  75                                  80

Asp Ser Gly Leu Gly Pro Trp Gln Leu Asn Val Phe Val Cys Arg Val  
                                   85                                  90                                  95

Ser Ala Val Leu Phe Tyr Val Asn Met Tyr Val Ser Ile Val Phe Phe  
                                   100                                  105                                  110

Gly Leu Ile Ser Phe Asp Arg Tyr Tyr Lys Ile Val Lys Pro Leu Trp  
                                   115                                  120                                  125

Thr Ser Phe Ile Gln Ser Val Ser Tyr Ser Lys Leu Leu Ser Val Ile  
       130                                  135                                  140

Val Trp Met Leu Met Leu Leu Leu Ala Val Pro Asn Ile Ile Leu Thr  
   145                                  150                                  155                                  160

Asn Gln Ser Val Arg Glu Val Thr Gln Ile Lys Cys Ile Glu Leu Lys  
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Ser Glu Leu Gly Arg Lys Trp His Lys Ala Ser Asn Tyr Ile Phe Val  
                                   180                                  185                                  190

Ala Ile Phe Trp Ile Val Phe Leu Leu Leu Ile Val Phe Tyr Thr Ala  
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Ile Thr Lys Lys Ile Phe Lys Ser His Leu Lys Ser Ser Arg Asn Ser  
       210                                  215                                  220

Thr Ser Val Lys Lys Lys Ser Ser Arg Asn Ile Phe Ser Ile Val Phe  
   225                                  230                                  235                                  240

Val Phe Phe Val Cys Phe Val Pro Tyr His Ile Ala Arg Ile Pro Tyr  
                                   245                                  250                                  255

Thr Lys Ser Gln Thr Glu Ala His Tyr Ser Cys Gln Ser Lys Glu Ile  
                                   260                                  265                                  270

Leu Arg Tyr Met Lys Glu Phe Thr Leu Leu Leu Ser Ala Ala Asn Val  
                                   275                                  280                                  285

- 27 -

Cys Leu Asp Pro Ile Ile Tyr Phe Phe Leu Cys Gln Pro Phe Arg Glu  
 290 295 300

Ile Leu Cys Lys Lys Leu His Ile Pro Leu Lys Ala Gln Asn Asp Leu  
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 Met Val Ile Met Gly Gln Cys Tyr Tyr  
 1 5  
 aac gag acc atc ggc ttc ttc tat aac aac agt ggc aaa gag ctc agc 159  
 Asn Glu Thr Ile Gly Phe Phe Tyr Asn Asn Ser Gly Lys Glu Leu Ser  
 10 15 20 25  
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 Ser His Trp Arg Pro Lys Asp Val Val Val Val Ala Leu Gly Leu Thr  
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 Val Ser Val Leu Val Leu Leu Thr Asn Leu Leu Val Ile Ala Ala Ile  
 45 50 55  
 gcc tcc aac cgc cgc ttc cac cag ccc atc tac tac ctg ctc ggc aat 303  
 Ala Ser Asn Arg Arg Phe His Gln Pro Ile Tyr Tyr Leu Leu Gly Asn  
 60 65 70  
 ctg gcc gcg gct gac ctc ttc gcg ggc gtg gcc tac ctc ttc ctc atg 351  
 Leu Ala Ala Ala Asp Leu Phe Ala Gly Val Ala Tyr Leu Phe Leu Met  
 75 80 85  
 ttc cac act ggt ccc cgc aca gcc cga ctt tca ctt gag ggc tgg ttc 399  
 Phe His Thr Gly Pro Arg Thr Ala Arg Leu Ser Leu Glu Gly Trp Phe  
 90 95 100 105  
 ctg cgg cag ggc ttg ctg gac aca agc ctc act gcg tcg gtg gcc aca 447  
 Leu Arg Gln Gly Leu Leu Asp Thr Ser Leu Thr Ala Ser Val Ala Thr  
 110 115 120

- 28 -

ctg ctg gcc atc gcc gtg gag cgg cac cgc agt gtg atg gcc gtg cag Leu Leu Ala Ile Ala Val Glu Arg His Arg Ser Val Met Ala Val Gln 125 130 135	495
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gtg tgg gtg gct gcc ctg ggc ctg ggg ctg ctg cct gcc cac tcc tgg Val Trp Val Ala Ala Leu Gly Leu Gly Leu Leu Pro Ala His Ser Trp 155 160 165	591
cac tgc ctc tgt gcc ctg gac cgc tgc tca cgc atg gca ccc ctg ctc His Cys Leu Cys Ala Leu Asp Arg Cys Ser Arg Met Ala Pro Leu Leu 170 175 180 185	639
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cga gtg cag cgc atg gca gag cat gtc agc tgc cac ccc cgc tac cga Arg Val Gln Arg Met Ala Glu His Val Ser Cys His Pro Arg Tyr Arg 220 225 230	783
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 Pro Asn Gln Gln Asp  
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 Thr Asn Leu Leu Val Ile Ala Ala Ile Ala Ser Asn Arg Arg Phe His  
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 Gln Pro Ile Tyr Tyr Leu Leu Gly Asn Leu Ala Ala Ala Asp Leu Phe  
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 Ala Gly Val Ala Tyr Leu Phe Leu Met Phe His Thr Gly Pro Arg Thr  
 85 90 95  
  
 Ala Arg Leu Ser Leu Glu Gly Trp Phe Leu Arg Gln Gly Leu Leu Asp  
 100 105 110  
  
 Thr Ser Leu Thr Ala Ser Val Ala Thr Leu Leu Ala Ile Ala Val Glu  
 115 120 125

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Arg His Arg Ser Val Met Ala Val Gln Leu His Ser Arg Leu Pro Arg  
 130 135 140

Gly Arg Val Val Met Leu Ile Val Gly Val Trp Val Ala Ala Leu Gly  
 145 150 155 160

Leu Gly Leu Leu Pro Ala His Ser Trp His Cys Leu Cys Ala Leu Asp  
 165 170 175

Arg Cys Ser Arg Met Ala Pro Leu Leu Ser Arg Ser Tyr Leu Ala Val  
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Trp Ala Leu Ser Ser Leu Leu Val Phe Leu Leu Met Val Ala Val Tyr  
 195 200 205

Thr Arg Ile Phe Phe Tyr Val Arg Arg Arg Val Gln Arg Met Ala Glu  
 210 215 220

His Val Ser Cys His Pro Arg Tyr Arg Glu Thr Thr Leu Ser Leu Val  
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Lys Thr Val Val Ile Ile Leu Gly Ala Phe Val Val Cys Trp Thr Pro  
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Gly Gln Val Val Leu Leu Leu Asp Gly Leu Gly Cys Glu Ser Cys Asn  
 260 265 270

Val Leu Ala Val Glu Lys Tyr Phe Leu Leu Leu Ala Glu Ala Asn Ser  
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Leu Val Asn Ala Ala Val Tyr Ser Cys Arg Asp Ala Glu Met Arg Arg  
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Thr Phe Arg Arg Leu Leu Cys Cys Ala Cys Leu Arg Gln Ser Thr Arg  
 305 310 315 320

Glu Ser Val His Tyr Thr Ser Ser Ala Gln Gly Gly Ala Ser Thr Arg  
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Ile Met Leu Pro Glu Asn Gly His Pro Leu Met Thr Pro Pro Phe Ser  
 340 345 350

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Asp Asp Leu Trp Val Leu Leu Ala Gln Pro Asn Gln Gln Asp

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370 375 380

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Met Leu Pro Asp Trp Lys Ser Ser Leu Ile Leu Met Ala Tyr Ile Ile	
1 5 10 15	
atc ttc ctc act ggc ctc cct gcc aac ctc ctg gcc ctg cgg gcc ttt	96
Ile Phe Leu Thr Gly Leu Pro Ala Asn Leu Leu Ala Leu Arg Ala Phe	
20 25 30	
gtg ggg cgg atc cgc cag ccc cag cct gca cct gtg cac atc ctc ctg	144
Val Gly Arg Ile Arg Gln Pro Gln Pro Ala Pro Val His Ile Leu Leu	
35 40 45	
ctg agc ctg acg ctg gcc gac ctc ctc ctg ctg ctg ctg ctg ccc ttc	192
Leu Ser Leu Thr Leu Ala Asp Leu Leu Leu Leu Leu Leu Leu Pro Phe	
50 55 60	
aag atc atc gag gct gcg tcg aac ttc cgc tgg tac ctg ccc aag gtc	240
Lys Ile Ile Glu Ala Ala Ser Asn Phe Arg Trp Tyr Leu Pro Lys Val	
65 70 75 80	
gtc tgc gcc ctc acg agt ttt ggc ttc tac agc agc atc tac tgc agc	288
Val Cys Ala Leu Thr Ser Phe Gly Phe Tyr Ser Ser Ile Tyr Cys Ser	
85 90 95	
acg tgg ctc ctg gcg ggc atc agc atc gag cgc tac ctg gga gtg gct	336
Thr Trp Leu Leu Ala Gly Ile Ser Ile Glu Arg Tyr Leu Gly Val Ala	
100 105 110	
ttc ccc gtg cag tac aag ctc tcc cgc cgg cct ctg tat gga gtg att	384
Phe Pro Val Gln Tyr Lys Leu Ser Arg Arg Pro Leu Tyr Gly Val Ile	
115 120 125	
gca gct ctg gtg gcc tgg gtt atg tcc ttt ggt cac tgc acc atc gtg	432
Ala Ala Leu Val Ala Trp Val Met Ser Phe Gly His Cys Thr Ile Val	
130 135 140	
atc atc gtt caa tac ttg aac acg act gag cag gtc aga agt ggc aat	480
Ile Ile Val Gln Tyr Leu Asn Thr Thr Glu Gln Val Arg Ser Gly Asn	
145 150 155 160	
gaa att acc tgc tac gag aac ttc acc gat aac cag ttg gac gtg gtg	528
Glu Ile Thr Cys Tyr Glu Asn Phe Thr Asp Asn Gln Leu Asp Val Val	
165 170 175	
ctg ccc gtg cgg ctg gag ctg tgc ctg gtg ctc ttc ttc atc ccc atg	576
Leu Pro Val Arg Leu Glu Leu Cys Leu Val Leu Phe Phe Ile Pro Met	
180 185 190	

- 32 -

gca gtc acc atc ttc tgc tac tgg cgt ttt gtg tgg atc atg ctc tcc 624  
 Ala Val Thr Ile Phe Cys Tyr Trp Arg Phe Val Trp Ile Met Leu Ser  
 195 200 205

cag ccc ctt gtg ggg gcc cag agg cgg cgc cga gcc gtg ggg ctg gct 672  
 Gln Pro Leu Val Gly Ala Gln Arg Arg Arg Ala Val Gly Leu Ala  
 210 215 220

gtg gtg acg ctg ctc aat ttc ctg gtg tgc ttc gga cct tac aac gtg 720  
 Val Val Thr Leu Leu Asn Phe Leu Val Cys Phe Gly Pro Tyr Asn Val  
 225 230 235 240

tcc cac ctg gtg ggg tat cac cag aga aaa agc ccc tgg tgg cgg tca 768  
 Ser His Leu Val Gly Tyr His Gln Arg Lys Ser Pro Trp Trp Arg Ser  
 245 250 255

ata gcc gtg gtg ttc agt tca ctc aac gcc agt ctg gac ccc ctg ctc 816  
 Ile Ala Val Val Phe Ser Ser Leu Asn Ala Ser Leu Asp Pro Leu Leu  
 260 265 270

ttc tat ttc tct tct tca gtg gtg cgc agg gca ttt ggg aga ggg ctg 864  
 Phe Tyr Phe Ser Ser Ser Val Val Arg Arg Ala Phe Gly Arg Gly Leu  
 275 280 285

cag gtg ctg cgg aat cag ggc tcc tcc ctg ttg gga cgc aga ggc aaa 912  
 Gln Val Leu Arg Asn Gln Gly Ser Ser Leu Leu Gly Arg Arg Gly Lys  
 290 295 300

gac aca gca gag ggg aca aat gag gac agg ggt gtg ggt caa gga gaa 960  
 Asp Thr Ala Glu Gly Thr Asn Glu Asp Arg Gly Val Gly Gln Gly Glu  
 305 310 315 320

ggg atg cca agt tcg gac ttc act aca gag tag 993  
 Gly Met Pro Ser Ser Asp Phe Thr Thr Glu  
 325 330

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 <212> PRT  
 <213> Homo sapiens

<400> 15

Met Leu Pro Asp Trp Lys Ser Ser Leu Ile Leu Met Ala Tyr Ile Ile  
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Ile Phe Leu Thr Gly Leu Pro Ala Asn Leu Leu Ala Leu Arg Ala Phe  
20 25 30

Val Gly Arg Ile Arg Gln Pro Gln Pro Ala Pro Val His Ile Leu Leu  
35 40 45

Leu Ser Leu Thr Leu Ala Asp Leu Leu Leu Leu Leu Leu Leu Pro Phe  
50 55 60

Lys Ile Ile Glu Ala Ala Ser Asn Phe Arg Trp Tyr Leu Pro Lys Val  
65 70 75 80



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Val Cys Ala Leu Thr Ser Phe Gly Phe Tyr Ser Ser Ile Tyr Cys Ser  
                     85                    90                    95

Thr Trp Leu Leu Ala Gly Ile Ser Ile Glu Arg Tyr Leu Gly Val Ala  
                     100                    105                    110

Phe Pro Val Gln Tyr Lys Leu Ser Arg Arg Pro Leu Tyr Gly Val Ile  
                     115                    120                    125

Ala Ala Leu Val Ala Trp Val Met Ser Phe Gly His Cys Thr Ile Val  
                     130                    135                    140

Ile Ile Val Gln Tyr Leu Asn Thr Thr Glu Gln Val Arg Ser Gly Asn  
 145                    150                    155                    160

Glu Ile Thr Cys Tyr Glu Asn Phe Thr Asp Asn Gln Leu Asp Val Val  
                     165                    170                    175

Leu Pro Val Arg Leu Glu Leu Cys Leu Val Leu Phe Phe Ile Pro Met  
                     180                    185                    190

Ala Val Thr Ile Phe Cys Tyr Trp Arg Phe Val Trp Ile Met Leu Ser  
                     195                    200                    205

Gln Pro Leu Val Gly Ala Gln Arg Arg Arg Arg Ala Val Gly Leu Ala  
                     210                    215                    220

Val Val Thr Leu Leu Asn Phe Leu Val Cys Phe Gly Pro Tyr Asn Val  
 225                    230                    235                    240

Ser His Leu Val Gly Tyr His Gln Arg Lys Ser Pro Trp Trp Arg Ser  
                     245                    250                    255

Ile Ala Val Val Phe Ser Ser Leu Asn Ala Ser Leu Asp Pro Leu Leu  
                     260                    265                    270

Phe Tyr Phe Ser Ser Ser Val Val Arg Arg Ala Phe Gly Arg Gly Leu  
                     275                    280                    285

Gln Val Leu Arg Asn Gln Gly Ser Ser Leu Leu Gly Arg Arg Gly Lys  
                     290                    295                    300

Asp Thr Ala Glu Gly Thr Asn Glu Asp Arg Gly Val Gly Gln Gly Glu  
 305                    310                    315                    320

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	Met	Gly	Asn	Asp	Ser	Val	Ser	Tyr	Glu	Tyr	Gly	Asp	Tyr			
	1					5					10					
agc	gac	ctc	tcg	gac	cgc	cct	gtg	gac	tgc	ctg	gat	ggc	gcc	tgc	ctg	158
Ser	Asp	Leu	Ser	Asp	Arg	Pro	Val	Asp	Cys	Leu	Asp	Gly	Ala	Cys	Leu	
	15					20					25					
gcc	atc	gac	ccg	ctg	cgc	gtg	gcc	ccg	ctc	cca	ctg	tat	gcc	gcc	atc	206
Ala	Ile	Asp	Pro	Leu	Arg	Val	Ala	Pro	Leu	Pro	Leu	Tyr	Ala	Ala	Ile	
30					35					40					45	
ttc	ctg	gtg	ggg	gtg	ccg	ggc	aat	gcc	atg	gtg	gcc	tgg	gtg	gct	ggg	254
Phe	Leu	Val	Gly	Val	Pro	Gly	Asn	Ala	Met	Val	Ala	Trp	Val	Ala	Gly	
			50						55					60		
aag	gtg	gcc	cgc	cgg	agg	gtg	ggt	gcc	acc	tgg	ttg	ctc	cac	ctg	gcc	302
Lys	Val	Ala	Arg	Arg	Arg	Val	Gly	Ala	Thr	Trp	Leu	Leu	His	Leu	Ala	
			65					70					75			
gtg	gcg	gat	ttg	ctg	tgc	tgt	ttg	tct	ctg	ccc	atc	ctg	gca	gtg	ccc	350
Val	Ala	Asp	Leu	Leu	Cys	Cys	Leu	Ser	Leu	Pro	Ile	Leu	Ala	Val	Pro	
		80					85					90				
att	gcc	cgt	gga	ggc	cac	tgg	ccg	tat	ggt	gca	gtg	ggc	tgt	cgg	gcg	398
Ile	Ala	Arg	Gly	Gly	His	Trp	Pro	Tyr	Gly	Ala	Val	Gly	Cys	Arg	Ala	
	95					100					105					
ctg	ccc	tcc	atc	atc	ctg	ctg	acc	atg	tat	gcc	agc	gtc	ctg	ctc	ctg	446
Leu	Pro	Ser	Ile	Ile	Leu	Leu	Thr	Met	Tyr	Ala	Ser	Val	Leu	Leu	Leu	
110					115					120					125	
gca	gct	ctc	agt	gcc	gac	ctc	tgc	ttc	ctg	gct	ctc	ggg	cct	gcc	tgg	494
Ala	Ala	Leu	Ser	Ala	Asp	Leu	Cys	Phe	Leu	Ala	Leu	Gly	Pro	Ala	Trp	
				130					135					140		
tgg	tct	acg	gtt	cag	cgg	gcg	tgc	ggg	gtg	cag	gtg	gcc	tgt	ggg	gca	542
Trp	Ser	Thr	Val	Gln	Arg	Ala	Cys	Gly	Val	Gln	Val	Ala	Cys	Gly	Ala	
			145					150					155			
gcc	tgg	aca	ctg	gcc	ttg	ctg	ctc	acc	gtg	ccc	tcc	gcc	atc	tac	cgc	590
Ala	Trp	Thr	Leu	Ala	Leu	Leu	Leu	Thr	Val	Pro	Ser	Ala	Ile	Tyr	Arg	
		160					165					170				
cgg	ctg	cac	cag	gag	cac	ttc	cca	gcc	cgg	ctg	cag	tgt	gtg	gtg	gac	638

- 35 -

Arg	Leu	His	Gln	Glu	His	Phe	Pro	Ala	Arg	Leu	Gln	Cys	Val	Val	Asp	
175						180					185					
tac	ggc	ggc	tcc	tcc	agc	acc	gag	aat	gcg	gtg	act	gcc	atc	cgg	ttt	686
Tyr	Gly	Gly	Ser	Ser	Ser	Thr	Glu	Asn	Ala	Val	Thr	Ala	Ile	Arg	Phe	
190					195					200					205	
ctt	ttt	ggc	ttc	ctg	ggg	ccc	ctg	gtg	gcc	gtg	gcc	agc	tgc	cac	agt	734
Leu	Phe	Gly	Phe	Leu	Gly	Pro	Leu	Val	Ala	Val	Ala	Ser	Cys	His	Ser	
				210					215					220		
gcc	ctc	ctg	tgc	tgg	gca	gcc	cga	cgc	tgc	cgg	ccg	ctg	ggc	aca	gcc	782
Ala	Leu	Leu	Cys	Trp	Ala	Ala	Arg	Arg	Cys	Arg	Pro	Leu	Gly	Thr	Ala	
			225					230					235			
att	gtg	gtg	ggg	ttt	ttt	gtc	tgc	tgg	gca	ccc	tac	cac	ctg	ctg	ggg	830
Ile	Val	Val	Gly	Phe	Phe	Val	Cys	Trp	Ala	Pro	Tyr	His	Leu	Leu	Gly	
		240					245					250				
ctg	gtg	ctc	act	gtg	gcg	gcc	ccg	aac	tcc	gca	ctc	ctg	gcc	agg	gcc	878
Leu	Val	Leu	Thr	Val	Ala	Ala	Pro	Asn	Ser	Ala	Leu	Leu	Ala	Arg	Ala	
		255				260					265					
ctg	cgg	gct	gaa	ccc	ctc	atc	gtg	ggc	ctt	gcc	ctc	gct	cac	agc	tgc	926
Leu	Arg	Ala	Glu	Pro	Leu	Ile	Val	Gly	Leu	Ala	Leu	Ala	His	Ser	Cys	
270					275					280					285	
ctc	aat	ccc	atg	ctc	ttc	ctg	tat	ttt	ggg	agg	gct	caa	ctc	cgc	cgg	974
Leu	Asn	Pro	Met	Leu	Phe	Leu	Tyr	Phe	Gly	Arg	Ala	Gln	Leu	Arg	Arg	
			290					295						300		
tca	ctg	cca	gct	gcc	tgt	cac	tgg	gcc	ctg	agg	gag	tcc	cag	ggc	cag	1022
Ser	Leu	Pro	Ala	Ala	Cys	His	Trp	Ala	Leu	Arg	Glu	Ser	Gln	Gly	Gln	
			305					310					315			
gac	gaa	agt	gtg	gac	agc	aag	aaa	tcc	acc	agc	cat	gac	ctg	gtc	tcg	1070
Asp	Glu	Ser	Val	Asp	Ser	Lys	Lys	Ser	Thr	Ser	His	Asp	Leu	Val	Ser	
		320					325					330				
gag	atg	gag	gtg	tag	gctggagaga	cattgtgggt	gtgtatcttc	ttatctcatt								1125
Glu	Met	Glu	Val													
		335														
tcacaagact	ggcttcaggc	atagctggat	ccaggagctc	aatgatgtct	tcattttatt											1185
ccttccttca	ttcaacagat	atccatcatg	cacttgctat	gtgcaaggcc	tttttaggca											1245
ctagagatat	agcagtgacc	aaaacagaca	caaatcctgc	cc												1287

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 <212> PRT  
 <213> Homo sapiens  
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Met	Gly	Asn	Asp	Ser	Val	Ser	Tyr	Glu	Tyr	Gly	Asp	Tyr	Ser	Asp	Leu	
1				5					10					15		

Ser Asp Arg Pro Val Asp Cys Leu Asp Gly Ala Cys Leu Ala Ile Asp

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20	25	30
Pro Leu Arg Val Ala Pro Leu Pro Leu Tyr Ala Ala Ile Phe Leu Val 35 40 45		
Gly Val Pro Gly Asn Ala Met Val Ala Trp Val Ala Gly Lys Val Ala 50 55 60		
Arg Arg Arg Val Gly Ala Thr Trp Leu Leu His Leu Ala Val Ala Asp 65 70 75 80		
Leu Leu Cys Cys Leu Ser Leu Pro Ile Leu Ala Val Pro Ile Ala Arg 85 90 95		
Gly Gly His Trp Pro Tyr Gly Ala Val Gly Cys Arg Ala Leu Pro Ser 100 105 110		
Ile Ile Leu Leu Thr Met Tyr Ala Ser Val Leu Leu Leu Ala Ala Leu 115 120 125		
Ser Ala Asp Leu Cys Phe Leu Ala Leu Gly Pro Ala Trp Trp Ser Thr 130 135 140		
Val Gln Arg Ala Cys Gly Val Gln Val Ala Cys Gly Ala Ala Trp Thr 145 150 155 160		
Leu Ala Leu Leu Leu Thr Val Pro Ser Ala Ile Tyr Arg Arg Leu His 165 170 175		
Gln Glu His Phe Pro Ala Arg Leu Gln Cys Val Val Asp Tyr Gly Gly 180 185 190		
Ser Ser Ser Thr Glu Asn Ala Val Thr Ala Ile Arg Phe Leu Phe Gly 195 200 205		
Phe Leu Gly Pro Leu Val Ala Val Ala Ser Cys His Ser Ala Leu Leu 210 215 220		
Cys Trp Ala Ala Arg Arg Cys Arg Pro Leu Gly Thr Ala Ile Val Val 225 230 235 240		
Gly Phe Phe Val Cys Trp Ala Pro Tyr His Leu Leu Gly Leu Val Leu 245 250 255		
Thr Val Ala Ala Pro Asn Ser Ala Leu Leu Ala Arg Ala Leu Arg Ala 260 265 270		

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Glu Pro Leu Ile Val Gly Leu Ala Leu Ala His Ser Cys Leu Asn Pro  
 275 280 285

Met Leu Phe Leu Tyr Phe Gly Arg Ala Gln Leu Arg Arg Ser Leu Pro  
 290 295 300

Ala Ala Cys His Trp Ala Leu Arg Glu Ser Gln Gly Gln Asp Glu Ser  
 305 310 315 320

Val Asp Ser Lys Lys Ser Thr Ser His Asp Leu Val Ser Glu Met Glu  
 325 330 335

Val

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<220>  
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 tgttttcttt tgtttgtata tatgtttatt ggtaacaggt gacactggaa gca atg 176  
 Met  
 1  
 aac acc aca gtg atg caa ggc ttc aac aga tct gag cgg tgc ccc aga 224  
 Asn Thr Thr Val Met Gln Gly Phe Asn Arg Ser Glu Arg Cys Pro Arg  
 5 10 15  
 gac act cgg ata gta cag ctg gta ttc cca gcc ctc tac aca gtg gtt 272  
 Asp Thr Arg Ile Val Gln Leu Val Phe Pro Ala Leu Tyr Thr Val Val  
 20 25 30  
 ttc ttg acc ggc atc ctg ctg aat act ttg gct ctg tgg gtg ttt gtt 320  
 Phe Leu Thr Gly Ile Leu Leu Asn Thr Leu Ala Leu Trp Val Phe Val  
 35 40 45  
 cac atc ccc agc tcc tcc acc ttc atc atc tac ctc aaa aac act ttg 368  
 His Ile Pro Ser Ser Ser Thr Phe Ile Ile Tyr Leu Lys Asn Thr Leu  
 50 55 60 65  
 gtg gcc gac ttg ata atg aca ctc atg ctt cct ttc aaa atc ctc tct 416  
 Val Ala Asp Leu Ile Met Thr Leu Met Leu Pro Phe Lys Ile Leu Ser  
 70 75 80  
 gac tca cac ctg gca ccc tgg cag ctc aga gct ttt gtg tgt cgt ttt 464  
 Asp Ser His Leu Ala Pro Trp Gln Leu Arg Ala Phe Val Cys Arg Phe

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85	90	95	
tct tctg gtg ata ttt tat gag acc atg tat gtg ggc atc gtg ctg tta Ser Ser Val Ile Phe Tyr Glu Thr Met Tyr Val Gly Ile Val Leu Leu 100 105 110			512
ggg ctc ata gcc ttt gac aga ttc ctc aag atc atc aga cct ttg aga Gly Leu Ile Ala Phe Asp Arg Phe Leu Lys Ile Ile Arg Pro Leu Arg 115 120 125			560
aat att ttt cta aaa aaa cct gtt ttt gca aaa acg gtc tca atc ttc Asn Ile Phe Leu Lys Lys Pro Val Phe Ala Lys Thr Val Ser Ile Phe 130 135 140 145			608
atc tgg ttc ttt ttg ttc ttc atc tcc ctg cca aat acg atc ttg agc Ile Trp Phe Phe Leu Phe Phe Ile Ser Leu Pro Asn Thr Ile Leu Ser 150 155 160			656
aac aag gaa gca aca cca tcg tct gtg aaa aag tgt gct tcc tta aag Asn Lys Glu Ala Thr Pro Ser Ser Val Lys Lys Cys Ala Ser Leu Lys 165 170 175			704
ggg cct ctg ggg ctg aaa tgg cat caa atg gta aat aac ata tgc cag Gly Pro Leu Gly Leu Lys Trp His Gln Met Val Asn Asn Ile Cys Gln 180 185 190			752
ttt att ttc tgg act gtt ttt atc cta atg ctt gtg ttt tat gtg gtt Phe Ile Phe Trp Thr Val Phe Ile Leu Met Leu Val Phe Tyr Val Val 195 200 205			800
att gca aaa aaa gta tat gat tct tat aga aag tcc aaa agt aag gac Ile Ala Lys Lys Val Tyr Asp Ser Tyr Arg Lys Ser Lys Ser Lys Asp 210 215 220 225			848
aga aaa aac aac aaa aag ctg gaa ggc aaa gta ttt gtt gtc gtg gct Arg Lys Asn Asn Lys Lys Leu Glu Gly Lys Val Phe Val Val Val Ala 230 235 240			896
gtc ttc ttt gtg tgt ttt gct cca ttt cat ttt gcc aga gtt cca tat Val Phe Phe Val Cys Phe Ala Pro Phe His Phe Ala Arg Val Pro Tyr 245 250 255			944
act cac agt caa acc aac aat aag act gac tgt aga ctg caa aat caa Thr His Ser Gln Thr Asn Asn Lys Thr Asp Cys Arg Leu Gln Asn Gln 260 265 270			992
ctg ttt att gct aaa gaa aca act ctc ttt ttg gca gca act aac att Leu Phe Ile Ala Lys Glu Thr Thr Leu Phe Leu Ala Ala Thr Asn Ile 275 280 285			1040
tgt atg gat ccc tta ata tac ata ttc tta tgt aaa aaa ttc aca gaa Cys Met Asp Pro Leu Ile Tyr Ile Phe Leu Cys Lys Lys Phe Thr Glu 290 295 300 305			1088
aag cta cca tgt atg caa ggg aga aag acc aca gca tca agc caa gaa Lys Leu Pro Cys Met Gln Gly Arg Lys Thr Thr Ala Ser Ser Gln Glu 310 315 320			1136
aat cat agc agt cag aca gac aac ata acc tta ggc tga caactgtaca Asn His Ser Ser Gln Thr Asp Asn Ile Thr Leu Gly 325 330			1185

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taggggtaac ttctatztat tgatgagact tccgtagata atgtggaaat caaatttaac	1245
caagaaaaaa agattggaac aaatgctctc ttacatttta ttatcctcgt gtacagaaaa	1305
gattatataa aatttaaadc cacatagatc tattcataag ctgaatgaac cattactaag	1365
agaatgcaac aggatacaaa tggccactag aggtcattat ttctttcttt cttttttttt	1425
ttttttaatt tcaagagcat ttcactttaa cattttggaa aagactaagg agaaacgtat	1485
atccctacaa acctcccctc caaacacctt ctcacattct tttccacaat tcacataaca	1545
ctactgcttt tgtgcccctt aaatgtagat atgtgctgaa agaaaaaaaa aacgccaac	1605
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tctgaggaac tgaagtgggt cagcaagacc tctgaaatcc tgggttaaagg attttctcct	1725
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ttattaagcc actttgctta caccttaagt gtgtacaatt caagtgtgag aatgctgtgt	1845
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cacctactca gcaatgcctt cctggaccac aaccctatc ccctgcccc accctcctca	1965
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tttctagtta gctatattct tgactgcac cgctaaaaat gttaaagctt cttgagagac	2085
agacatgcca gattttcttg gtatctccca taatacgacc tacagtccat ggtctacaga	2145
tgttttaaat agaattgcta ttctcgatac atacaaagac gtaattgctg acccacaatc	2205
agtaacatcc atattgagag atttttcaaa ggatggtgac cctgcttgta tttatttacc	2265
ttgggtathtt ttcttgcatc cttctgtgat tcaaaaaagt aaaatgtggc tttctgaaat	2325
gatggataag agtctacatc ttctagaaaa aatacataaa ggagtagtta agctctgtaa	2385
atgtgccacg agctccaaca cgaccatcgt agggatgaag ccacgttttc ttccatggcc	2445
tcaaaggccc tagaacttgc ctacctttct ggccttacct cctagctact tatccatctc	2505
ttgaacttta tactcttgta taaatttcta actttcagaa aatgccatac tctgttttgg	2565
caccacacat gtatatttcc ccctggtaca cttggaagac tcttatccat ctgtgaaacc	2625
ctatgttgtc atcaattggg ccatgaaata ttacctggcc aatatccac catcacctca	2685
aaccaatca cccctcctc tgtatgctgt cacacctata ttattaaact tatcacattg	2745
cattgtaatt acttctgac ctttgtatct actcttttag taactgatgt atatatctga	2805
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<210> 19  
 <211> 333  
 <212> PRT  
 <213> Homo sapiens

- 40 -

&lt;400&gt; 19

Met Asn Thr Thr Val Met Gln Gly Phe Asn Arg Ser Glu Arg Cys Pro  
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Arg Asp Thr Arg Ile Val Gln Leu Val Phe Pro Ala Leu Tyr Thr Val  
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Val Phe Leu Thr Gly Ile Leu Leu Asn Thr Leu Ala Leu Trp Val Phe  
 35 40 45

Val His Ile Pro Ser Ser Ser Thr Phe Ile Ile Tyr Leu Lys Asn Thr  
 50 55 60

Leu Val Ala Asp Leu Ile Met Thr Leu Met Leu Pro Phe Lys Ile Leu  
 65 70 75 80

Ser Asp Ser His Leu Ala Pro Trp Gln Leu Arg Ala Phe Val Cys Arg  
 85 90 95

Phe Ser Ser Val Ile Phe Tyr Glu Thr Met Tyr Val Gly Ile Val Leu  
 100 105 110

Leu Gly Leu Ile Ala Phe Asp Arg Phe Leu Lys Ile Ile Arg Pro Leu  
 115 120 125

Arg Asn Ile Phe Leu Lys Lys Pro Val Phe Ala Lys Thr Val Ser Ile  
 130 135 140

Phe Ile Trp Phe Phe Leu Phe Phe Ile Ser Leu Pro Asn Thr Ile Leu  
 145 150 155 160

Ser Asn Lys Glu Ala Thr Pro Ser Ser Val Lys Lys Cys Ala Ser Leu  
 165 170 175

Lys Gly Pro Leu Gly Leu Lys Trp His Gln Met Val Asn Asn Ile Cys  
 180 185 190

Gln Phe Ile Phe Trp Thr Val Phe Ile Leu Met Leu Val Phe Tyr Val  
 195 200 205

Val Ile Ala Lys Lys Val Tyr Asp Ser Tyr Arg Lys Ser Lys Ser Lys  
 210 215 220

Asp Arg Lys Asn Asn Lys Lys Leu Glu Gly Lys Val Phe Val Val Val  
 225 230 235 240



Ala Val Phe Phe Val Cys Phe Ala Pro Phe His Phe Ala Arg Val Pro  
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Tyr Thr His Ser Gln Thr Asn Asn Lys Thr Asp Cys Arg Leu Gln Asn  
260 265 270

Gln Leu Phe Ile Ala Lys Glu Thr Thr Leu Phe Leu Ala Ala Thr Asn  
275 280 285

Ile Cys Met Asp Pro Leu Ile Tyr Ile Phe Leu Cys Lys Lys Phe Thr  
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Glu Lys Leu Pro Cys Met Gln Gly Arg Lys Thr Thr Ala Ser Ser Gln  
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 Met Ala Ser His Glu Val  
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 gat aat gca gag ctg ggg tca gcc tct gcc cat ggt acc cca ggc agt 164  
 Asp Asn Ala Glu Leu Gly Ser Ala Ser Ala His Gly Thr Pro Gly Ser  
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 Glu Thr Gly Pro Glu Glu Leu Asn Thr Ser Val Tyr His Pro Ile Asn  
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 Gly Ser Pro Asp Tyr Gln Lys Ala Lys Leu Gln Val Leu Gly Ala Ile  
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 Ser Leu Gln Tyr Pro Tyr His Phe Gln Lys His Phe Phe Phe Phe Thr  
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Leu Gly Val Phe Leu Gly Ser Leu Gln Tyr Pro Tyr His Phe Gln Lys  
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Val Phe Phe Cys Ser Ser Gly Thr Leu Ser Val Val Ala Gly Ile Lys  
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Pro Thr Arg Thr Trp Ile Gln Asn Ser Phe Gly Met Asn Ile Ala Ser  
115 120 125

Ala Thr Ile Ala Leu Val Gly Thr Ala Phe Leu Ser Leu Asn Ile Ala  
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Val Asn Ile Gln Ser Leu Arg Ser Cys His Ser Ser Ser Glu Ser Pro  
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Asp Leu Cys Asn Tyr Met Gly Ser Ile Ser Asn Gly Met Val Ser Leu  
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Leu Leu Ile Leu Thr Leu Leu Glu Leu Cys Val Thr Ile Ser Thr Ile  
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atg ctg ggg caa gtg gtc acc ctc ata ctc ctc ctg ctc ctc aag gtg 226  
Met Leu Gly Gln Val Val Thr Leu Ile Leu Leu Leu Leu Lys Val  
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Ser	Gly	Val	Pro	Leu	Gln	Leu	Gln	Pro	Asn	Ser	Ile	Gln	Thr	Lys	Val		
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gac	agc	att	gca	tgg	aag	aag	ttg	ctg	ccc	tca	caa	aat	gga	ttt	cat	370	
Asp	Ser	Ile	Ala	Trp	Lys	Lys	Leu	Leu	Pro	Ser	Gln	Asn	Gly	Phe	His		
	50				55						60						
cac	ata	ttg	aag	tgg	gag	aat	ggc	tct	ttg	cct	tcc	aat	act	tcc	aat	418	
His	Ile	Leu	Lys	Trp	Glu	Asn	Gly	Ser	Leu	Pro	Ser	Asn	Thr	Ser	Asn		
65					70					75					80		
gat	aga	ttc	agt	ttt	ata	gtc	aag	aac	ttg	agt	ctt	ctc	atc	aag	gca	466	
Asp	Arg	Phe	Ser	Phe	Ile	Val	Lys	Asn	Leu	Ser	Leu	Leu	Ile	Lys	Ala		
				85					90					95			
gct	cag	cag	cag	gac	agt	ggc	ctc	tac	tgc	ctg	gag	gtc	acc	agt	ata	514	
Ala	Gln	Gln	Gln	Asp	Ser	Gly	Leu	Tyr	Cys	Leu	Glu	Val	Thr	Ser	Ile		
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Ser	Gly	Lys	Val	Gln	Thr	Ala	Thr	Phe	Gln	Val	Phe	Val	Phe	Asp	Lys		
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Val	Glu	Lys	Pro	Arg	Leu	Gln	Gly	Gln	Gly	Lys	Ile	Leu	Asp	Arg	Gly		
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aga	tgc	caa	gtg	gct	ctg	tct	tgc	ttg	gtc	tcc	agg	gat	ggc	aat	gtg	658	
Arg	Cys	Gln	Val	Ala	Leu	Ser	Cys	Leu	Val	Ser	Arg	Asp	Gly	Asn	Val		
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Ser	Tyr	Ala	Trp	Tyr	Arg	Gly	Ser	Lys	Leu	Ile	Gln	Thr	Ala	Gly	Asn		
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Leu	Thr	Tyr	Leu	Asp	Glu	Glu	Val	Asp	Ile	Asn	Gly	Thr	His	Thr	Tyr		
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Thr	Cys	Asn	Val	Ser	Asn	Pro	Val	Ser	Trp	Glu	Ser	His	Thr	Leu	Asn		
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Phe	Leu	Val	Ile	Ile	Val	Ile	Leu	Ser	Ala	Leu	Phe	Leu	Gly	Thr	Leu		
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gcc	tgc	ttc	tgt	gtg	tgg	agg	aga	aag	agg	aag	gag	aag	cag	tca	gag	946	
Ala	Cys	Phe	Cys	Val	Trp	Arg	Arg	Lys	Arg	Lys	Glu	Lys	Gln	Ser	Glu		
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acc	agt	ccc	aag	gaa	ttt	ttg	aca	att	tac	gaa	gat	gtc	aag	gat	ctg	994	
Thr	Ser	Pro	Lys	Glu	Phe	Leu	Thr	Ile	Tyr	Glu	Asp	Val	Lys	Asp	Leu		
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aaa acc agg aga aat cac gag cag gag cag act ttt cct gga ggg ggg	1042
Lys Thr Arg Arg Asn His Glu Gln Glu Gln Thr Phe Pro Gly Gly Gly	
275 280 285	
agc acc atc tac tct atg atc cag tcc cag tct tct gct ccc acg tca	1090
Ser Thr Ile Tyr Ser Met Ile Gln Ser Gln Ser Ser Ala Pro Thr Ser	
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Gln Glu Pro Ala Tyr Thr Leu Tyr Ser Leu Ile Gln Pro Ser Arg Lys	
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Ser Gly Ser Arg Lys Arg Asn His Ser Pro Ser Phe Asn Ser Thr Ile	
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Ser Gly Val Pro Leu Gln Leu Gln Pro Asn Ser Ile Gln Thr Lys Val  
 35 40 45

Asp Ser Ile Ala Trp Lys Lys Leu Leu Pro Ser Gln Asn Gly Phe His  
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His Ile Leu Lys Trp Glu Asn Gly Ser Leu Pro Ser Asn Thr Ser Asn  
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Asp Arg Phe Ser Phe Ile Val Lys Asn Leu Ser Leu Leu Ile Lys Ala  
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Ala Gln Gln Gln Asp Ser Gly Leu Tyr Cys Leu Glu Val Thr Ser Ile  
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Ser Gly Lys Val Gln Thr Ala Thr Phe Gln Val Phe Val Phe Asp Lys  
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Val Glu Lys Pro Arg Leu Gln Gly Gln Gly Lys Ile Leu Asp Arg Gly  
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Arg Cys Gln Val Ala Leu Ser Cys Leu Val Ser Arg Asp Gly Asn Val  
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Ser Tyr Ala Trp Tyr Arg Gly Ser Lys Leu Ile Gln Thr Ala Gly Asn  
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Leu Thr Tyr Leu Asp Glu Glu Val Asp Ile Asn Gly Thr His Thr Tyr  
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Thr Cys Asn Val Ser Asn Pro Val Ser Trp Glu Ser His Thr Leu Asn

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 Thr Ser Pro Lys Glu Phe Leu Thr Ile Tyr Glu Asp Val Lys Asp Leu  
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 Lys Thr Arg Arg Asn His Glu Gln Glu Gln Thr Phe Pro Gly Gly Gly  
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 Ser Thr Ile Tyr Ser Met Ile Gln Ser Gln Ser Ser Ala Pro Thr Ser  
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 Gln Glu Pro Ala Tyr Thr Leu Tyr Ser Leu Ile Gln Pro Ser Arg Lys  
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 Tyr Glu Val Ile Gly Lys Ser Gln Pro Lys Ala Gln Asn Pro Ala Arg  
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attaacgtcc acatggagat atggaagagg accgggggatt ggtaccgtaa cc atg gtc	598
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agc tgg ggt cgt ttc atc tgc ctg gtc gtg gtc acc atg gca acc ttg	646
Ser Trp Gly Arg Phe Ile Cys Leu Val Val Val Thr Met Ala Thr Leu	
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tcc ctg gcc cgg ccc tcc ttc agt tta gtt gag gat acc aca tta gag	694
Ser Leu Ala Arg Pro Ser Phe Ser Leu Val Glu Asp Thr Thr Leu Glu	
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cca gaa gag cca cca acc aaa tac caa atc tct caa cca gaa gtg tac	742
Pro Glu Glu Pro Pro Thr Lys Tyr Gln Ile Ser Gln Pro Glu Val Tyr	
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gtg gct gcg cca ggg gag tgc cta gag gtg cgc tgc ctg ttg aaa gat	790
Val Ala Ala Pro Gly Glu Ser Leu Glu Val Arg Cys Leu Leu Lys Asp	
55 60 65	
gcc gcc gtg atc agt tgg act aag gat ggg gtg cac ttg ggg ccc aac	838
Ala Ala Val Ile Ser Trp Thr Lys Asp Gly Val His Leu Gly Pro Asn	
70 75 80	
aat agg aca gtg ctt att ggg gag tac ttg cag ata aag ggc gcc acg	886
Asn Arg Thr Val Leu Ile Gly Glu Tyr Leu Gln Ile Lys Gly Ala Thr	
85 90 95	
cct aga gac tcc ggc ctc tat gct tgt act gcc agt agg act gta gac	934
Pro Arg Asp Ser Gly Leu Tyr Ala Cys Thr Ala Ser Arg Thr Val Asp	
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Ser Glu Thr Trp Tyr Phe Met Val Asn Val Thr Asp Ala Ile Ser Ser	
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Gly Asp Asp Glu Asp Asp Thr Asp Gly Ala Glu Asp Phe Val Ser Glu	
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aac agt aac aac aag aga gca cca tac tgg acc aac aca gaa aag atg	1078
Asn Ser Asn Asn Lys Arg Ala Pro Tyr Trp Thr Asn Thr Glu Lys Met	
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Glu Lys Arg Leu His Ala Val Pro Ala Ala Asn Thr Val Lys Phe Arg	
165 170 175	
tgc cca gcc ggg ggg aac cca atg cca acc atg cgg tgg ctg aaa aac	1174
Cys Pro Ala Gly Gly Asn Pro Met Pro Thr Met Arg Trp Leu Lys Asn	
180 185 190	

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aac cag cac tgg agc ctc att atg gaa agt gtg gtc cca tct gac aag	1270
Asn Gln His Trp Ser Leu Ile Met Glu Ser Val Val Pro Ser Asp Lys	
215 220 225	
gga aat tat acc tgt gtg gtg gag aat gaa tac ggg tcc atc aat cac	1318
Gly Asn Tyr Thr Cys Val Val Glu Asn Glu Tyr Gly Ser Ile Asn His	
230 235 240	
acg tac cac ctg gat gtt gtg gag cga tcg cct cac cgg ccc atc ctc	1366
Thr Tyr His Leu Asp Val Val Glu Arg Ser Pro His Arg Pro Ile Leu	
245 250 255	
caa gcc gga ctg ccg gca aat gcc tcc aca gtg gtc gga gga gac gta	1414
Gln Ala Gly Leu Pro Ala Asn Ala Ser Thr Val Val Gly Gly Asp Val	
260 265 270	
gag ttt gtc tgc aag gtt tac agt gat gcc cag ccc cac atc cag tgg	1462
Glu Phe Val Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile Gln Trp	
275 280 285 290	
atc aag cac gtg gaa aag aac ggc agt aaa tac ggg ccc gac ggg ctg	1510
Ile Lys His Val Glu Lys Asn Gly Ser Lys Tyr Gly Pro Asp Gly Leu	
295 300 305	
ccc tac ctc aag gtt ctc aag cac tcg ggg ata aat agt tcc aat gca	1558
Pro Tyr Leu Lys Val Leu Lys His Ser Gly Ile Asn Ser Ser Asn Ala	
310 315 320	
gaa gtg ctg gct ctg ttc aat gtg acc gag gcg gat gct ggg gaa tat	1606
Glu Val Leu Ala Leu Phe Asn Val Thr Glu Ala Asp Ala Gly Glu Tyr	
325 330 335	
ata tgt aag gtc tcc aat tat ata ggg cag gcc aac cag tct gcc tgg	1654
Ile Cys Lys Val Ser Asn Tyr Ile Gly Gln Ala Asn Gln Ser Ala Trp	
340 345 350	
ctc act gtc ctg cca aaa cag caa gcg cct gga aga gaa aag gag att	1702
Leu Thr Val Leu Pro Lys Gln Gln Ala Pro Gly Arg Glu Lys Glu Ile	
355 360 365 370	
aca gct tcc cca gac tac ctg gag ata gcc att tac tgc ata ggg gtc	1750
Thr Ala Ser Pro Asp Tyr Leu Glu Ile Ala Ile Tyr Cys Ile Gly Val	
375 380 385	
ttc tta atc gcc tgt atg gtg gta aca gtc atc ctg tgc cga atg aag	1798
Phe Leu Ile Ala Cys Met Val Val Thr Val Ile Leu Cys Arg Met Lys	
390 395 400	
aac acg acc aag aag cca gac ttc agc agc cag ccg gct gtg cac aag	1846
Asn Thr Thr Lys Lys Pro Asp Phe Ser Ser Gln Pro Ala Val His Lys	
405 410 415	
ctg acc aaa cgt atc ccc ctg cgg aga cag gta aca gtt tcg gct gag	1894
Leu Thr Lys Arg Ile Pro Leu Arg Arg Gln Val Thr Val Ser Ala Glu	
420 425 430	
tcc agc tcc tcc atg aac tcc aac acc ccg ctg gtg agg ata aca aca	1942
Ser Ser Ser Ser Met Asn Ser Asn Thr Pro Leu Val Arg Ile Thr Thr	

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435	440	445	450	
cgc ctc tct tca acg gca gac acc ccc atg ctg gca ggg gtc tcc gag				1990
Arg Leu Ser Ser Thr Ala Asp Thr Pro Met Leu Ala Gly Val Ser Glu	455	460	465	
tat gaa ctt cca gag gac cca aaa tgg gag ttt cca aga gat aag ctg				2038
Tyr Glu Leu Pro Glu Asp Pro Lys Trp Glu Phe Pro Arg Asp Lys Leu	470	475	480	
aca ctg ggc aag ccc ctg gga gaa ggt tgc ttt ggg caa gtg gtc atg				2086
Thr Leu Gly Lys Pro Leu Gly Glu Gly Cys Phe Gly Gln Val Val Met	485	490	495	
gcg gaa gca gtg gga att gac aaa gac aag ccc aag gag gcg gtc acc				2134
Ala Glu Ala Val Gly Ile Asp Lys Asp Lys Pro Lys Glu Ala Val Thr	500	505	510	
gtg gcc gtg aag atg ttg aaa gat gat gcc aca gag aaa gac ctt tct				2182
Val Ala Val Lys Met Leu Lys Asp Asp Ala Thr Glu Lys Asp Leu Ser	515	520	525	530
gat ctg gtg tca gag atg gag atg atg aag atg att ggg aaa cac aag				2230
Asp Leu Val Ser Glu Met Glu Met Met Lys Met Ile Gly Lys His Lys	535	540	545	
aat atc ata aat ctt ctt gga gcc tgc aca cag gat ggg cct ctc tat				2278
Asn Ile Ile Asn Leu Leu Gly Ala Cys Thr Gln Asp Gly Pro Leu Tyr	550	555	560	
gtc ata gtt gag tat gcc tct aaa ggc aac ctc cga gaa tac ctc cga				2326
Val Ile Val Glu Tyr Ala Ser Lys Gly Asn Leu Arg Glu Tyr Leu Arg	565	570	575	
gcc cgg agg cca ccc ggg atg gag tac tcc tat gac att aac cgt gtt				2374
Ala Arg Arg Pro Pro Gly Met Glu Tyr Ser Tyr Asp Ile Asn Arg Val	580	585	590	
cct gag gag cag atg acc ttc aag gac ttg gtg tca tgc acc tac cag				2422
Pro Glu Glu Gln Met Thr Phe Lys Asp Leu Val Ser Cys Thr Tyr Gln	595	600	605	610
ctg gcc aga ggc atg gag tac ttg gct tcc caa aaa tgt att cat cga				2470
Leu Ala Arg Gly Met Glu Tyr Leu Ala Ser Gln Lys Cys Ile His Arg	615	620	625	
gat tta gca gcc aga aat gtt ttg gta aca gaa aac aat gtg atg aaa				2518
Asp Leu Ala Ala Arg Asn Val Leu Val Thr Glu Asn Asn Val Met Lys	630	635	640	
ata gca gac ttt gga ctc gcc aga gat atc aac aat ata gac tat tac				2566
Ile Ala Asp Phe Gly Leu Ala Arg Asp Ile Asn Asn Ile Asp Tyr Tyr	645	650	655	
aaa aag acc acc aat ggg cgg ctt cca gtc aag tgg atg gct cca gaa				2614
Lys Lys Thr Thr Asn Gly Arg Leu Pro Val Lys Trp Met Ala Pro Glu	660	665	670	
gcc ctg ttt gat aga gta tac act cat cag agt gat gtc tgg tcc ttc				2662
Ala Leu Phe Asp Arg Val Tyr Thr His Gln Ser Asp Val Trp Ser Phe	675	680	685	690

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ggg gtg tta atg tgg gag atc ttc act tta ggg ggc tcg ccc tac cca	2710
Gly Val Leu Met Trp Glu Ile Phe Thr Leu Gly Gly Ser Pro Tyr Pro	
695 700 705	
ggg att ccc gtg gag gaa ctt ttt aag ctg ctg aag gaa gga cac aga	2758
Gly Ile Pro Val Glu Glu Leu Phe Lys Leu Leu Lys Glu Gly His Arg	
710 715 720	
atg gat aag cca gcc aac tgc acc aac gaa ctg tac atg atg atg agg	2806
Met Asp Lys Pro Ala Asn Cys Thr Asn Glu Leu Tyr Met Met Met Arg	
725 730 735	
gac tgt tgg cat gca gtg ccc tcc cag aga cca acg ttc aag cag ttg	2854
Asp Cys Trp His Ala Val Pro Ser Gln Arg Pro Thr Phe Lys Gln Leu	
740 745 750	
gta gaa gac ttg gat cga att ctc act ctc aca acc aat gag gaa tac	2902
Val Glu Asp Leu Asp Arg Ile Leu Thr Leu Thr Thr Asn Glu Glu Tyr	
755 760 765 770	
ttg gac ctc agc caa cct ctc gaa cag tat tca cct agt tac cct gac	2950
Leu Asp Leu Ser Gln Pro Leu Glu Gln Tyr Ser Pro Ser Tyr Pro Asp	
775 780 785	
aca aga agt tct tgt tct tca gga gat gat tct gtt ttt tct cca gac	2998
Thr Arg Ser Ser Cys Ser Ser Gly Asp Asp Ser Val Phe Ser Pro Asp	
790 795 800	
ccc atg cct tac gaa cca tgc ctt cct cag tat cca cac ata aac ggc	3046
Pro Met Pro Tyr Glu Pro Cys Leu Pro Gln Tyr Pro His Ile Asn Gly	
805 810 815	
agt gtt aaa aca tga atgactgtgt ctgcctgtcc ccaaacagga cagcactggg	3101
Ser Val Lys Thr	
820	
aacctagcta cactgagcag ggagaccatg cctcccagag cttgttgtct ccacttgtat	3161
atatggatca gaggagtaaa taattggaaa agtaatcagc atatgtgtaa agatttatac	3221
agttgaaaac ttgtaatctt ccccaggagg agaagaaggt ttctggagca gtggactgcc	3281
acaagccacc atgtaacccc tctcacctgc cgtgcgtact ggctgtggac cagtaggact	3341
caaggtggac gtgcgttctg ccttccttgt taattttgta ataattggag aagatttatg	3401
tcagcacaca cttacagagc acaaatgcag tatataggtg ctggatgtat gtaaatatat	3461
tcaaattatg tataaatata tattatatat ttacaaggag ttattttttg tattgatttt	3521
aaatggatgt cccaatgcac ctagaaaatt ggtctctctt tttttaatag ctatttgcta	3581
aatgctgttc ttacacataa tttcttaatt ttcaccgagc agaggtggaa aaatactttt	3641
gctttcaggg aaaatggtat aacgttaatt tattaataaa ttggtaatat acaaaacaat	3701
taatcattta tagttttttt tgtaatttaa gtggcatttc tatgcaggca gcacagcaga	3761
ctagttaatc tattgcttgg acttaactag ttatcagatc ctttgaaaag agaatattta	3821
caatatatga ctaatttggg gaaaatgaag ttttgattta tttgtgttta aatgctgctg	3881

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tcagacgatt gttcttagac ctccataatg ccccatatta aaagaactca ttcataaggaa 3941
gggtgtttcat tttggtgtgc aaccctgtca ttacgtcaac gcaacgtcta actggacttc 4001
ccaagataaa tggtagcagc gtcctcttaa aagatgcctt aatccattcc ttgaggacag 4061
accttagttg aaatgatagc agaatgtgct tctctctggc agctggcctt ctgcttctga 4121
gttgcacatt aatcagatta gcctgattct cttcagtcaa ttttgataat ggcttccaga 4181
ctctttgcgt tggagacgcc tgtaggagtc ttcaagtccc atcatagaaa attgaaacac 4241
agagttgttc tgctgatagt tttggggata cgtccatctt ttttaagggat tgctttcatc 4301
taattctggc aggacctcac caaaagatcc agcctcatac ctacatcaga caaaatatcg 4361
ccgttggttc ttctgtacta aagtattgtg ttttgctttg gaaacaccca ctcactttgc 4421
aatagccgtg caagatgaat gcagattaca ctgatcttat gtgttacaaa attggagaaa 4481
gtattttaata aaacctgtta atttttatac tgacaataaa aatgtttcta cagatattaa 4541
tgtaacaag acaaaataaa tgtcacgcaa ctt 4574

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<210> 26  
 <211> 822  
 <212> PRT  
 <213> Homo sapiens

<400> 26

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Met Val Ser Trp Gly Arg Phe Ile Cys Leu Val Val Val Thr Met Ala
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Thr Leu Ser Leu Ala Arg Pro Ser Phe Ser Leu Val Glu Asp Thr Thr
          20           25           30

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```

Leu Glu Pro Glu Glu Pro Pro Thr Lys Tyr Gln Ile Ser Gln Pro Glu
          35           40           45

```

```

Val Tyr Val Ala Ala Pro Gly Glu Ser Leu Glu Val Arg Cys Leu Leu
          50           55           60

```

```

Lys Asp Ala Ala Val Ile Ser Trp Thr Lys Asp Gly Val His Leu Gly
65           70           75           80

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```

Pro Asn Asn Arg Thr Val Leu Ile Gly Glu Tyr Leu Gln Ile Lys Gly
          85           90           95

```

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Ala Thr Pro Arg Asp Ser Gly Leu Tyr Ala Cys Thr Ala Ser Arg Thr
          100          105          110

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Val Asp Ser Glu Thr Trp Tyr Phe Met Val Asn Val Thr Asp Ala Ile
          115          120          125

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Ser Ser Gly Asp Asp Glu Asp Asp Thr Asp Gly Ala Glu Asp Phe Val  
 130 135 140

Ser Glu Asn Ser Asn Asn Lys Arg Ala Pro Tyr Trp Thr Asn Thr Glu  
 145 150 155 160

Lys Met Glu Lys Arg Leu His Ala Val Pro Ala Ala Asn Thr Val Lys  
 165 170 175

Phe Arg Cys Pro Ala Gly Gly Asn Pro Met Pro Thr Met Arg Trp Leu  
 180 185 190

Lys Asn Gly Lys Glu Phe Lys Gln Glu His Arg Ile Gly Gly Tyr Lys  
 195 200 205

Val Arg Asn Gln His Trp Ser Leu Ile Met Glu Ser Val Val Pro Ser  
 210 215 220

Asp Lys Gly Asn Tyr Thr Cys Val Val Glu Asn Glu Tyr Gly Ser Ile  
 225 230 235 240

Asn His Thr Tyr His Leu Asp Val Val Glu Arg Ser Pro His Arg Pro  
 245 250 255

Ile Leu Gln Ala Gly Leu Pro Ala Asn Ala Ser Thr Val Val Gly Gly  
 260 265 270

Asp Val Glu Phe Val Cys Lys Val Tyr Ser Asp Ala Gln Pro His Ile  
 275 280 285

Gln Trp Ile Lys His Val Glu Lys Asn Gly Ser Lys Tyr Gly Pro Asp  
 290 295 300

Gly Leu Pro Tyr Leu Lys Val Leu Lys His Ser Gly Ile Asn Ser Ser  
 305 310 315 320

Asn Ala Glu Val Leu Ala Leu Phe Asn Val Thr Glu Ala Asp Ala Gly  
 325 330 335

Glu Tyr Ile Cys Lys Val Ser Asn Tyr Ile Gly Gln Ala Asn Gln Ser  
 340 345 350

Ala Trp Leu Thr Val Leu Pro Lys Gln Gln Ala Pro Gly Arg Glu Lys  
 355 360 365

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Glu Ile Thr Ala Ser Pro Asp Tyr Leu Glu Ile Ala Ile Tyr Cys Ile  
 370 375 380

Gly Val Phe Leu Ile Ala Cys Met Val Val Thr Val Ile Leu Cys Arg  
 385 390 395 400

Met Lys Asn Thr Thr Lys Lys Pro Asp Phe Ser Ser Gln Pro Ala Val  
 405 410 415

His Lys Leu Thr Lys Arg Ile Pro Leu Arg Arg Gln Val Thr Val Ser  
 420 425 430

Ala Glu Ser Ser Ser Ser Met Asn Ser Asn Thr Pro Leu Val Arg Ile  
 435 440 445

Thr Thr Arg Leu Ser Ser Thr Ala Asp Thr Pro Met Leu Ala Gly Val  
 450 455 460

Ser Glu Tyr Glu Leu Pro Glu Asp Pro Lys Trp Glu Phe Pro Arg Asp  
 465 470 475 480

Lys Leu Thr Leu Gly Lys Pro Leu Gly Glu Gly Cys Phe Gly Gln Val  
 485 490 495

Val Met Ala Glu Ala Val Gly Ile Asp Lys Asp Lys Pro Lys Glu Ala  
 500 505 510

Val Thr Val Ala Val Lys Met Leu Lys Asp Asp Ala Thr Glu Lys Asp  
 515 520 525

Leu Ser Asp Leu Val Ser Glu Met Glu Met Met Lys Met Ile Gly Lys  
 530 535 540

His Lys Asn Ile Ile Asn Leu Leu Gly Ala Cys Thr Gln Asp Gly Pro  
 545 550 555 560

Leu Tyr Val Ile Val Glu Tyr Ala Ser Lys Gly Asn Leu Arg Glu Tyr  
 565 570 575

Leu Arg Ala Arg Arg Pro Pro Gly Met Glu Tyr Ser Tyr Asp Ile Asn  
 580 585 590

Arg Val Pro Glu Glu Gln Met Thr Phe Lys Asp Leu Val Ser Cys Thr  
 595 600 605

Tyr Gln Leu Ala Arg Gly Met Glu Tyr Leu Ala Ser Gln Lys Cys Ile  
 610 615 620

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His Arg Asp Leu Ala Ala Arg Asn Val Leu Val Thr Glu Asn Asn Val  
 625 630 635 640

Met Lys Ile Ala Asp Phe Gly Leu Ala Arg Asp Ile Asn Asn Ile Asp  
 645 650 655

Tyr Tyr Lys Lys Thr Thr Asn Gly Arg Leu Pro Val Lys Trp Met Ala  
 660 665 670

Pro Glu Ala Leu Phe Asp Arg Val Tyr Thr His Gln Ser Asp Val Trp  
 675 680 685

Ser Phe Gly Val Leu Met Trp Glu Ile Phe Thr Leu Gly Gly Ser Pro  
 690 695 700

Tyr Pro Gly Ile Pro Val Glu Glu Leu Phe Lys Leu Leu Lys Glu Gly  
 705 710 715 720

His Arg Met Asp Lys Pro Ala Asn Cys Thr Asn Glu Leu Tyr Met Met  
 725 730 735

Met Arg Asp Cys Trp His Ala Val Pro Ser Gln Arg Pro Thr Phe Lys  
 740 745 750

Gln Leu Val Glu Asp Leu Asp Arg Ile Leu Thr Leu Thr Thr Asn Glu  
 755 760 765

Glu Tyr Leu Asp Leu Ser Gln Pro Leu Glu Gln Tyr Ser Pro Ser Tyr  
 770 775 780

Pro Asp Thr Arg Ser Ser Cys Ser Ser Gly Asp Asp Ser Val Phe Ser  
 785 790 795 800

Pro Asp Pro Met Pro Tyr Glu Pro Cys Leu Pro Gln Tyr Pro His Ile  
 805 810 815

Asn Gly Ser Val Lys Thr  
 820

<210> 27  
 <211> 5175  
 <212> DNA  
 <213> Homo sapiens

<220>  
 <221> CDS



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&lt;222&gt; (94) .. (2676)

&lt;400&gt; 27

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gccccgagtg caatcgcgagg aagccagggt ttccagctag gacacagcag gtcgtgatcc      60

gggtcggggac actgcctggc agaggctgcg agc atg ggg ccc tgg ggc tgg aaa      114
               Met Gly Pro Trp Gly Trp Lys
               1               5

ttg cgc tgg acc gtc gcc ttg ctc ctc gcc gcg gcg ggg act gca gtg      162
Leu Arg Trp Thr Val Ala Leu Leu Leu Ala Ala Ala Gly Thr Ala Val
               10               15               20

ggc gac aga tgt gaa aga aac gag ttc cag tgc caa gac ggg aaa tgc      210
Gly Asp Arg Cys Glu Arg Asn Glu Phe Gln Cys Gln Asp Gly Lys Cys
               25               30               35

atc tcc tac aag tgg gtc tgc gat ggc agc gct gag tgc cag gat ggc      258
Ile Ser Tyr Lys Trp Val Cys Asp Gly Ser Ala Glu Cys Gln Asp Gly
40               45               50               55

tct gat gag tcc cag gag acg tgc ttg tct gtc acc tgc aaa tcc ggg      306
Ser Asp Glu Ser Gln Glu Thr Cys Leu Ser Val Thr Cys Lys Ser Gly
               60               65               70

gac ttc agc tgt ggg ggc cgt gtc aac cgc tgc att cct cag ttc tgg      354
Asp Phe Ser Cys Gly Gly Arg Val Asn Arg Cys Ile Pro Gln Phe Trp
               75               80               85

agg tgc gat ggc caa gtg gac tgc gac aac ggc tca gac gag caa ggc      402
Arg Cys Asp Gly Gln Val Asp Cys Asp Asn Gly Ser Asp Glu Gln Gly
               90               95               100

tgt ccc ccc aag acg tgc tcc cag gac gag ttt cgc tgc cac gat ggg      450
Cys Pro Pro Lys Thr Cys Ser Gln Asp Glu Phe Arg Cys His Asp Gly
105               110               115

aag tgc atc tct cgg cag ttc gtc tgt gac tca gac cgg gac tgc ttg      498
Lys Cys Ile Ser Arg Gln Phe Val Cys Asp Ser Asp Arg Asp Cys Leu
120               125               130               135

gac ggc tca gac gag gcc tcc tgc ccg gtg ctc acc tgt ggt ccc gcc      546
Asp Gly Ser Asp Glu Ala Ser Cys Pro Val Leu Thr Cys Gly Pro Ala
               140               145               150

agc ttc cag tgc aac agc tcc acc tgc atc ccc cag ctg tgg gcc tgc      594
Ser Phe Gln Cys Asn Ser Ser Thr Cys Ile Pro Gln Leu Trp Ala Cys
               155               160               165

gac aac gac ccc gac tgc gaa gat ggc tcg gat gag tgg ccg cag cgc      642
Asp Asn Asp Pro Asp Cys Glu Asp Gly Ser Asp Glu Trp Pro Gln Arg
               170               175               180

tgt agg ggt ctt tac gtg ttc caa ggg gac agt agc ccc tgc tcg gcc      690
Cys Arg Gly Leu Tyr Val Phe Gln Gly Asp Ser Ser Pro Cys Ser Ala
185               190               195

ttc gag ttc cac tgc cta agt ggc gag tgc atc cac tcc agc tgg cgc      738
Phe Glu Phe His Cys Leu Ser Gly Glu Cys Ile His Ser Ser Trp Arg
200               205               210               215

tgt gat ggt ggc ccc gac tgc aag gac aaa tct gac gag gaa aac tgc      786

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Cys	Asp	Gly	Gly	Pro	Asp	Cys	Lys	Asp	Lys	Ser	Asp	Glu	Glu	Asn	Cys	
				220					225					230		
gct	gtg	gcc	acc	tgt	cgc	cct	gac	gaa	ttc	cag	tgc	tct	gat	gga	aac	834
Ala	Val	Ala	Thr	Cys	Arg	Pro	Asp	Glu	Phe	Gln	Cys	Ser	Asp	Gly	Asn	
			235					240					245			
tgc	atc	cat	ggc	agc	cgg	cag	tgt	gac	cgg	gaa	tat	gac	tgc	aag	gac	882
Cys	Ile	His	Gly	Ser	Arg	Gln	Cys	Asp	Arg	Glu	Tyr	Asp	Cys	Lys	Asp	
		250					255					260				
atg	agc	gat	gaa	gtt	ggc	tgc	gtt	aat	gtg	aca	ctc	tgc	gag	gga	ccc	930
Met	Ser	Asp	Glu	Val	Gly	Cys	Val	Asn	Val	Thr	Leu	Cys	Glu	Gly	Pro	
	265					270					275					
aac	aag	ttc	aag	tgt	cac	agc	ggc	gaa	tgc	atc	acc	ctg	gac	aaa	gtc	978
Asn	Lys	Phe	Lys	Cys	His	Ser	Gly	Glu	Cys	Ile	Thr	Leu	Asp	Lys	Val	
280					285					290					295	
tgc	aac	atg	gct	aga	gac	tgc	cgg	gac	tgg	tca	gat	gaa	ccc	atc	aaa	1026
Cys	Asn	Met	Ala	Arg	Asp	Cys	Arg	Asp	Trp	Ser	Asp	Glu	Pro	Ile	Lys	
				300					305					310		
gag	tgc	ggg	acc	aac	gaa	tgc	ttg	gac	aac	aac	ggc	ggc	tgt	tcc	cac	1074
Glu	Cys	Gly	Thr	Asn	Glu	Cys	Leu	Asp	Asn	Asn	Gly	Gly	Cys	Ser	His	
			315					320					325			
gtc	tgc	aat	gac	ctt	aag	atc	ggc	tac	gag	tgc	ctg	tgc	ccc	gac	ggc	1122
Val	Cys	Asn	Asp	Leu	Lys	Ile	Gly	Tyr	Glu	Cys	Leu	Cys	Pro	Asp	Gly	
		330					335					340				
ttc	cag	ctg	gtg	gcc	cag	cga	aga	tgc	gaa	gat	atc	gat	gag	tgt	cag	1170
Phe	Gln	Leu	Val	Ala	Gln	Arg	Arg	Cys	Glu	Asp	Ile	Asp	Glu	Cys	Gln	
	345					350					355					
gat	ccc	gac	acc	tgc	agc	cag	ctc	tgc	gtg	aac	ctg	gag	ggg	ggc	tac	1218
Asp	Pro	Asp	Thr	Cys	Ser	Gln	Leu	Cys	Val	Asn	Leu	Glu	Gly	Gly	Tyr	
360					365				370						375	
aag	tgc	cag	tgt	gag	gaa	ggc	ttc	cag	ctg	gac	ccc	cac	acg	aag	gcc	1266
Lys	Cys	Gln	Cys	Glu	Glu	Gly	Phe	Gln	Leu	Asp	Pro	His	Thr	Lys	Ala	
				380					385					390		
tgc	aag	gct	gtg	ggc	tcc	atc	gcc	tac	ctc	ttc	ttc	acc	aac	cgg	cac	1314
Cys	Lys	Ala	Val	Gly	Ser	Ile	Ala	Tyr	Leu	Phe	Phe	Thr	Asn	Arg	His	
			395					400					405			
gag	gtc	agg	aag	atg	acg	ctg	gac	cgg	agc	gag	tac	acc	agc	ctc	atc	1362
Glu	Val	Arg	Lys	Met	Thr	Leu	Asp	Arg	Ser	Glu	Tyr	Thr	Ser	Leu	Ile	
		410					415					420				
ccc	aac	ctg	agg	aac	gtg	gtc	gct	ctg	gac	acg	gag	gtg	gcc	agc	aat	1410
Pro	Asn	Leu	Arg	Asn	Val	Val	Ala	Leu	Asp	Thr	Glu	Val	Ala	Ser	Asn	
	425					430					435					
aga	atc	tac	tgg	tct	gac	ctg	tcc	cag	aga	atg	atc	tgc	agc	acc	cag	1458
Arg	Ile	Tyr	Trp	Ser	Asp	Leu	Ser	Gln	Arg	Met	Ile	Cys	Ser	Thr	Gln	
440					445				450						455	
ctt	gac	aga	gcc	cac	ggc	gtc	tct	tcc	tat	gac	acc	gtc	atc	agc	agg	1506
Leu	Asp	Arg	Ala	His	Gly	Val	Ser	Ser	Tyr	Asp	Thr	Val	Ile	Ser	Arg	
				460					465					470		

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gac atc cag gcc ccc gac ggg ctg gct gtg gac tgg atc cac agc aac	1554
Asp Ile Gln Ala Pro Asp Gly Leu Ala Val Asp Trp Ile His Ser Asn	
475 480 485	
atc tac tgg acc gac tct gtc ctg ggc act gtc tct gtt gcg gat acc	1602
Ile Tyr Trp Thr Asp Ser Val Leu Gly Thr Val Ser Val Ala Asp Thr	
490 495 500	
aag ggc gtg aag agg aaa acg tta ttc agg gag aac ggc tcc aag cca	1650
Lys Gly Val Lys Arg Lys Thr Leu Phe Arg Glu Asn Gly Ser Lys Pro	
505 510 515	
agg gcc atc gtg gtg gat cct gtt cat ggc ttc atg tac tgg act gac	1698
Arg Ala Ile Val Val Asp Pro Val His Gly Phe Met Tyr Trp Thr Asp	
520 525 530 535	
tgg gga act ccc gcc aag atc aag aaa ggg ggc ctg aat ggt gtg gac	1746
Trp Gly Thr Pro Ala Lys Ile Lys Lys Gly Gly Leu Asn Gly Val Asp	
540 545 550	
atc tac tcg ctg gtg act gaa aac att cag tgg ccc aat ggc atc acc	1794
Ile Tyr Ser Leu Val Thr Glu Asn Ile Gln Trp Pro Asn Gly Ile Thr	
555 560 565	
cta gat ctc ctc agt ggc cgc ctc tac tgg gtt gac tcc aaa ctt cac	1842
Leu Asp Leu Leu Ser Gly Arg Leu Tyr Trp Val Asp Ser Lys Leu His	
570 575 580	
tcc atc tca agc atc gat gtc aat ggg ggc aac cgg aag acc atc ttg	1890
Ser Ile Ser Ser Ile Asp Val Asn Gly Gly Asn Arg Lys Thr Ile Leu	
585 590 595	
gag gat gaa aag agg ctg gcc cac ccc ttc tcc ttg gcc gtc ttt gag	1938
Glu Asp Glu Lys Arg Leu Ala His Pro Phe Ser Leu Ala Val Phe Glu	
600 605 610 615	
gac aaa gta ttt tgg aca gat atc atc aac gaa gcc att ttc agt gcc	1986
Asp Lys Val Phe Trp Thr Asp Ile Ile Asn Glu Ala Ile Phe Ser Ala	
620 625 630	
aac cgc ctc aca ggt tcc gat gtc aac ttg ttg gct gaa aac cta ctg	2034
Asn Arg Leu Thr Gly Ser Asp Val Asn Leu Leu Ala Glu Asn Leu Leu	
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tcc cca gag gat atg gtc ctc ttc cac aac ctc acc cag cca aga gga	2082
Ser Pro Glu Asp Met Val Leu Phe His Asn Leu Thr Gln Pro Arg Gly	
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gtg aac tgg tgt gag agg acc acc ctg agc aat ggc ggc tgc cag tat	2130
Val Asn Trp Cys Glu Arg Thr Thr Leu Ser Asn Gly Gly Cys Gln Tyr	
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ctg tgc ctc cct gcc ccg cag atc aac ccc cac tcg ccc aag ttt acc	2178
Leu Cys Leu Pro Ala Pro Gln Ile Asn Pro His Ser Pro Lys Phe Thr	
680 685 690 695	
tgc gcc tgc ccg gac ggc atg ctg ctg gcc agg gac atg agg agc tgc	2226
Cys Ala Cys Pro Asp Gly Met Leu Leu Ala Arg Asp Met Arg Ser Cys	
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ctc aca gag gct gag gct gca gtg gcc acc cag gag aca tcc acc gtc	2274

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Leu Thr Glu Ala Glu Ala Ala Val Ala Thr Gln Glu Thr Ser Thr Val	
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agg cta aag gtc agc tcc aca gcc gta agg aca cag cac aca acc acc	2322
Arg Leu Lys Val Ser Ser Thr Ala Val Arg Thr Gln His Thr Thr Thr	
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cgg cct gtt ccc gac acc tcc cgg ctg cct ggg gcc acc cct ggg ctc	2370
Arg Pro Val Pro Asp Thr Ser Arg Leu Pro Gly Ala Thr Pro Gly Leu	
745 750 755	
acc acg gtg gag ata gtg aca atg tct cac caa gct ctg ggc gac gtt	2418
Thr Thr Val Glu Ile Val Thr Met Ser His Gln Ala Leu Gly Asp Val	
760 765 770 775	
gct ggc aga gga aat gag aag aag ccc agt agc gtg agg gct ctg tcc	2466
Ala Gly Arg Gly Asn Glu Lys Lys Pro Ser Ser Val Arg Ala Leu Ser	
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Ile Val Leu Pro Ile Val Leu Leu Val Phe Leu Cys Leu Gly Val Phe	
795 800 805	
ctt cta tgg aag aac tgg cgg ctt aag aac atc aac agc atc aac ttt	2562
Leu Leu Trp Lys Asn Trp Arg Leu Lys Asn Ile Asn Ser Ile Asn Phe	
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gac aac ccc gtc tat cag aag acc aca gag gat gag gtc cac att tgc	2610
Asp Asn Pro Val Tyr Gln Lys Thr Thr Glu Asp Glu Val His Ile Cys	
825 830 835	
cac aac cag gac ggc tac agc tac ccc tcg aga cag atg gtc agt ctg	2658
His Asn Gln Asp Gly Tyr Ser Tyr Pro Ser Arg Gln Met Val Ser Leu	
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Glu Asp Asp Val Ala	
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Gln Cys Gln Asp Gly Lys Cys Ile Ser Tyr Lys Trp Val Cys Asp Gly  
 35 40 45

Ser Ala Glu Cys Gln Asp Gly Ser Asp Glu Ser Gln Glu Thr Cys Leu  
 50 55 60

Ser Val Thr Cys Lys Ser Gly Asp Phe Ser Cys Gly Gly Arg Val Asn  
 65 70 75 80

Arg Cys Ile Pro Gln Phe Trp Arg Cys Asp Gly Gln Val Asp Cys Asp  
 85 90 95

Asn Gly Ser Asp Glu Gln Gly Cys Pro Pro Lys Thr Cys Ser Gln Asp  
 100 105 110

Glu Phe Arg Cys His Asp Gly Lys Cys Ile Ser Arg Gln Phe Val Cys  
 115 120 125

Asp Ser Asp Arg Asp Cys Leu Asp Gly Ser Asp Glu Ala Ser Cys Pro  
 130 135 140

Val Leu Thr Cys Gly Pro Ala Ser Phe Gln Cys Asn Ser Ser Thr Cys  
 145 150 155 160

Ile Pro Gln Leu Trp Ala Cys Asp Asn Asp Pro Asp Cys Glu Asp Gly  
 165 170 175

Ser Asp Glu Trp Pro Gln Arg Cys Arg Gly Leu Tyr Val Phe Gln Gly  
 180 185 190

Asp Ser Ser Pro Cys Ser Ala Phe Glu Phe His Cys Leu Ser Gly Glu  
 195 200 205

Cys Ile His Ser Ser Trp Arg Cys Asp Gly Gly Pro Asp Cys Lys Asp  
 210 215 220

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Lys Ser Asp Glu Glu Asn Cys Ala Val Ala Thr Cys Arg Pro Asp Glu  
 225 230 235 240

Phe Gln Cys Ser Asp Gly Asn Cys Ile His Gly Ser Arg Gln Cys Asp  
 245 250 255

Arg Glu Tyr Asp Cys Lys Asp Met Ser Asp Glu Val Gly Cys Val Asn  
 260 265 270

Val Thr Leu Cys Glu Gly Pro Asn Lys Phe Lys Cys His Ser Gly Glu  
 275 280 285

Cys Ile Thr Leu Asp Lys Val Cys Asn Met Ala Arg Asp Cys Arg Asp  
 290 295 300

Trp Ser Asp Glu Pro Ile Lys Glu Cys Gly Thr Asn Glu Cys Leu Asp  
 305 310 315 320

Asn Asn Gly Gly Cys Ser His Val Cys Asn Asp Leu Lys Ile Gly Tyr  
 325 330 335

Glu Cys Leu Cys Pro Asp Gly Phe Gln Leu Val Ala Gln Arg Arg Cys  
 340 345 350

Glu Asp Ile Asp Glu Cys Gln Asp Pro Asp Thr Cys Ser Gln Leu Cys  
 355 360 365

Val Asn Leu Glu Gly Gly Tyr Lys Cys Gln Cys Glu Glu Gly Phe Gln  
 370 375 380

Leu Asp Pro His Thr Lys Ala Cys Lys Ala Val Gly Ser Ile Ala Tyr  
 385 390 395 400

Leu Phe Phe Thr Asn Arg His Glu Val Arg Lys Met Thr Leu Asp Arg  
 405 410 415

Ser Glu Tyr Thr Ser Leu Ile Pro Asn Leu Arg Asn Val Val Ala Leu  
 420 425 430

Asp Thr Glu Val Ala Ser Asn Arg Ile Tyr Trp Ser Asp Leu Ser Gln  
 435 440 445

Arg Met Ile Cys Ser Thr Gln Leu Asp Arg Ala His Gly Val Ser Ser  
 450 455 460

Tyr Asp Thr Val Ile Ser Arg Asp Ile Gln Ala Pro Asp Gly Leu Ala

465					470					475						480
Val	Asp	Trp	Ile	His	Ser	Asn	Ile	Tyr	Trp	Thr	Asp	Ser	Val	Leu	Gly	
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Arg	Glu	Asn	Gly	Ser	Lys	Pro	Arg	Ala	Ile	Val	Val	Asp	Pro	Val	His	
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Gly	Gly	Leu	Asn	Gly	Val	Asp	Ile	Tyr	Ser	Leu	Val	Thr	Glu	Asn	Ile	
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Gln	Trp	Pro	Asn	Gly	Ile	Thr	Leu	Asp	Leu	Leu	Ser	Gly	Arg	Leu	Tyr	
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Trp	Val	Asp	Ser	Lys	Leu	His	Ser	Ile	Ser	Ser	Ile	Asp	Val	Asn	Gly	
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Gly	Asn	Arg	Lys	Thr	Ile	Leu	Glu	Asp	Glu	Lys	Arg	Leu	Ala	His	Pro	
		595					600					605				
Phe	Ser	Leu	Ala	Val	Phe	Glu	Asp	Lys	Val	Phe	Trp	Thr	Asp	Ile	Ile	
	610					615					620					
Asn	Glu	Ala	Ile	Phe	Ser	Ala	Asn	Arg	Leu	Thr	Gly	Ser	Asp	Val	Asn	
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Leu	Leu	Ala	Glu	Asn	Leu	Leu	Ser	Pro	Glu	Asp	Met	Val	Leu	Phe	His	
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Asn	Leu	Thr	Gln	Pro	Arg	Gly	Val	Asn	Trp	Cys	Glu	Arg	Thr	Thr	Leu	
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Ser	Asn	Gly	Gly	Cys	Gln	Tyr	Leu	Cys	Leu	Pro	Ala	Pro	Gln	Ile	Asn	
		675					680					685				
Pro	His	Ser	Pro	Lys	Phe	Thr	Cys	Ala	Cys	Pro	Asp	Gly	Met	Leu	Leu	
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Ala	Arg	Asp	Met	Arg	Ser	Cys	Leu	Thr	Glu	Ala	Glu	Ala	Ala	Val	Ala	
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      Met Thr Pro Ile Leu Thr Val Leu Ile
              1                      5

tgt ctc ggg ctg agt ctg ggc ccc agg acc cac gtg cag gca ggg cac      162
Cys Leu Gly Leu Ser Leu Gly Pro Arg Thr His Val Gln Ala Gly His
10                      15                      20                      25

ctc ccc aag ccc acc ctc tgg gct gag cca ggc tct gtg atc atc cag      210
Leu Pro Lys Pro Thr Leu Trp Ala Glu Pro Gly Ser Val Ile Ile Gln
                      30                      35                      40

gga agt cct gtg acc ctc agg tgt cag ggg agc ctt cag gct gag gag      258
Gly Ser Pro Val Thr Leu Arg Cys Gln Gly Ser Leu Gln Ala Glu Glu
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tac cat cta tat agg gaa aac aaa tca gca tcc tgg gtt aga cgg ata      306
Tyr His Leu Tyr Arg Glu Asn Lys Ser Ala Ser Trp Val Arg Arg Ile
                      60                      65                      70

caa gag cct ggg aag aat ggc cag ttc ccc atc cca tcc atc acc tgg      354
Gln Glu Pro Gly Lys Asn Gly Gln Phe Pro Ile Pro Ser Ile Thr Trp
75                      80                      85

gaa cac gca ggg cgg tat cac tgt cag tac tac agc cac aat cac tca      402
Glu His Ala Gly Arg Tyr His Cys Gln Tyr Tyr Ser His Asn His Ser
90                      95                      100                      105

tca gag tac agt gac ccc ctg gag ctg gtg gtg aca gga gcc tac agc      450
Ser Glu Tyr Ser Asp Pro Leu Glu Leu Val Val Thr Gly Ala Tyr Ser
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aaa ccc acc ctc tca gct ctg ccc agc cct gtg gtg acc tta gga ggg      498
Lys Pro Thr Leu Ser Ala Leu Pro Ser Pro Val Val Thr Leu Gly Gly
                      125                      130                      135

aac gtg acc ctc cag tgt gtc tca cag gtg gca ttt gac ggc ttc att      546
Asn Val Thr Leu Gln Cys Val Ser Gln Val Ala Phe Asp Gly Phe Ile
                      140                      145                      150

ctg tgt aag gaa gga gaa gat gaa cac cca caa cgc ctg aac tcc cat      594
Leu Cys Lys Glu Gly Glu Asp Glu His Pro Gln Arg Leu Asn Ser His
155                      160                      165

tcc cat gcc cgt ggg tgg tcc tgg gcc atc ttc tcc gtg ggc ccc gtg      642
Ser His Ala Arg Gly Trp Ser Trp Ala Ile Phe Ser Val Gly Pro Val
170                      175                      180                      185

agc ccg agt cgc agg tgg tcg tac agg tgc tat gct tat gac tcg aac      690
Ser Pro Ser Arg Arg Trp Ser Tyr Arg Cys Tyr Ala Tyr Asp Ser Asn
                      190                      195                      200

tct ccc tat gtg tgg tct cta ccc agt gat ctc ctg gag ctc ctg gtc      738
Ser Pro Tyr Val Trp Ser Leu Pro Ser Asp Leu Leu Glu Leu Leu Val
205                      210                      215

cca ggt gtt tct aag aag cca tca ctc tca gtg cag cca ggt cct atg      786
Pro Gly Val Ser Lys Lys Pro Ser Leu Ser Val Gln Pro Gly Pro Met
220                      225                      230

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Ala Glu Pro Gly Ser Val Ile Ile Gln Gly Ser Pro Val Thr Leu Arg  
 35 40 45

Cys Gln Gly Ser Leu Gln Ala Glu Glu Tyr His Leu Tyr Arg Glu Asn  
 50 55 60

Lys Ser Ala Ser Trp Val Arg Arg Ile Gln Glu Pro Gly Lys Asn Gly  
 65 70 75 80

Gln Phe Pro Ile Pro Ser Ile Thr Trp Glu His Ala Gly Arg Tyr His  
 85 90 95

Cys Gln Tyr Tyr Ser His Asn His Ser Ser Glu Tyr Ser Asp Pro Leu  
 100 105 110

Glu Leu Val Val Thr Gly Ala Tyr Ser Lys Pro Thr Leu Ser Ala Leu  
 115 120 125

Pro Ser Pro Val Val Thr Leu Gly Gly Asn Val Thr Leu Gln Cys Val  
 130 135 140

Ser Gln Val Ala Phe Asp Gly Phe Ile Leu Cys Lys Glu Gly Glu Asp  
 145 150 155 160

Glu His Pro Gln Arg Leu Asn Ser His Ser His Ala Arg Gly Trp Ser  
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Trp Ala Ile Phe Ser Val Gly Pro Val Ser Pro Ser Arg Arg Trp Ser  
 180 185 190

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Tyr Arg Cys Tyr Ala Tyr Asp Ser Asn Ser Pro Tyr Val Trp Ser Leu  
 195 200 205

Pro Ser Asp Leu Leu Glu Leu Leu Val Pro Gly Val Ser Lys Lys Pro  
 210 215 220

Ser Leu Ser Val Gln Pro Gly Pro Met Val Ala Pro Gly Glu Ser Leu  
 225 230 235 240

Thr Leu Gln Cys Val Ser Asp Val Gly Tyr Asp Arg Phe Val Leu Tyr  
 245 250 255

Lys Glu Gly Glu Arg Asp Phe Leu Gln Arg Pro Gly Trp Gln Pro Gln  
 260 265 270

Ala Gly Leu Ser Gln Ala Asn Phe Thr Leu Gly Pro Val Ser Pro Ser  
 275 280 285

His Gly Gly Gln Tyr Arg Cys Tyr Ser Ala His Asn Leu Ser Ser Glu  
 290 295 300

Trp Ser Ala Pro Ser Asp Pro Leu Asp Ile Leu Ile Thr Gly Gln Phe  
 305 310 315 320

Tyr Asp Arg Pro Ser Leu Ser Val Gln Pro Val Pro Thr Val Ala Pro  
 325 330 335

Gly Lys Asn Val Thr Leu Leu Cys Gln Ser Arg Gly Gln Phe His Thr  
 340 345 350

Phe Leu Leu Thr Lys Glu Gly Ala Gly His Pro Pro Leu His Leu Arg  
 355 360 365

Ser Glu His Gln Ala Gln Gln Asn Gln Ala Glu Phe Arg Met Gly Pro  
 370 375 380

Val Thr Ser Ala His Val Gly Thr Tyr Arg Cys Tyr Ser Ser Leu Ser  
 385 390 395 400

Ser Asn Pro Tyr Leu Leu Ser Leu Pro Ser Asp Pro Leu Glu Leu Val  
 405 410 415

Val Ser Ala Ser Leu Gly Gln His Pro Gln Asp Tyr Thr Val Glu Asn  
 420 425 430

Leu Ile Arg Met Gly Val Ala Gly Leu Val Leu Val Val Leu Gly Ile

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435

440

445

Leu Leu Phe Glu Ala Gln His Ser Gln Arg Ser Leu Gln Asp Ala Ala  
450 455 460

Gly Arg  
465